

HITACHI



V23717

8

Hi8

8mm VIDEO CAMERA/RECORDER

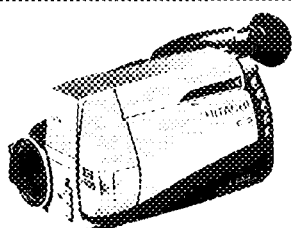
Hi8 VIDEO CAMERA/RECORDER

VM-E555LE

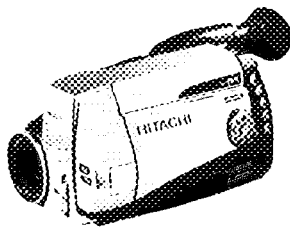
VM-H755LE

VM-H855LE

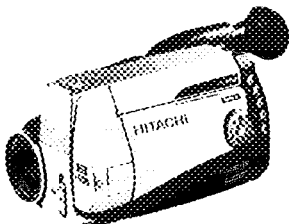
VM-H955LE



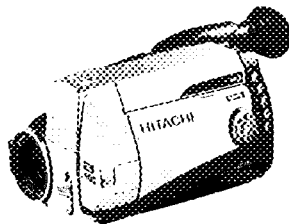
VM-E555LE



VM-H755LE



VM-H855LE







VM-H955LE

Instruction manual

To obtain the best performance and ensure years of trouble-free use, please read this instruction manual completely.

PRECAUTION

-  **Do not shoot the sun directly.**
Otherwise, the lens will be faulty.
-  **No water, dust or sand**
Be careful that no water, dust or sand enters the camera/recorder because it may cause trouble and accidents.
-  When you shoot at a scene which contains an extremely bright object such as a light source, a bright vertical bar may appear in the picture.
Your camera/recorder is functioning properly, but the solid-state pickup device (C.C.D) usually causes this as an inherent characteristic. Try to avoid shooting an excessive bright object directly.
-  Do not leave the viewfinder lens and the liquid crystal facing sunlight for a prolonged period, or the phosphorescent surface of the cathode ray tube and the LCD panel may be damaged.

The liquid crystal display (LCD) panel is made by highly precise technology. More than 99.99% of its picture elements (pixels) are effective, but some (less than 0.01%) may appear as coloured bright dots. This does not indicate a fault as the LCD panel stretches the limits of current technology.

NOTES:

- This unit uses 8 mm video format cassettes.
- It records and plays back in the SP mode (20.05 mm/sec.).
- VM-H755LE/VM-H855LE/VM-H955LE uses a Hi-Fi stereo sound system.
When a tape recorded by this camera/recorder is played by a conventional 8mm camera/recorder, monaural sound is output. When a tape recorded by a conventional 8 mm camera/recorder is played this machine, monaural sound is output.

MOISTURE

Avoid operating your camera/recorder immediately after moving it from a cold place to a warm, humid place. Give the camera/recorder 2 to 3 hours to stabilize in the ambient conditions of the surroundings before inserting a cassette. When moved from a cold place to a warm, humid place, moisture may condense on the head drum inside the machine. This moisture could cause the tape to stick to the headwheel and damage the headwheel or tape. When a small amount of moisture is sensed, "TAPE" flashes in the viewfinder or on the LCD monitor. Remove the cassette and set the CAM/OFF/VIDEO switch to OFF, then wait for about one hour.

BE SURE NOT TO LEAVE IT IN A PLACE AT HIGH TEMPERATURE EXCEEDING 60°C, OR ITS INTERNAL PARTS MAY DETERIORATE. BE CAREFUL NOT TO LEAVE THE UNIT IN THE FOLLOWING PLACES:

- * Inside a car with the window closed and in direct sunshine.
- * Near heating appliances.
- * In direct sunshine in summer.

WARNING: To prevent risk of injury or damage to your camera/recorder and the AC adaptor, use only the specified batteries and AC adaptor.

Batteries; VM-BPL13, VM-BPL27,
VM-BPL30 and VM-BPL60.
(The VM-BPL13 is supplied with this camera/recorder.)

AC adaptor; VM-ACE5E

WARNING: It is permissible to record television programmes only in the event that third party copyrights and other rights are not violated.

FEATURES

Single-Unit Convenience and Ease of Operation

Your video camera/recorder combines the functions of a video camera and a video tape recorder in one lightweight, easy-to-use instrument. This eliminates interconnecting cables and simplifies operation.

Record and Playback Capability

Record — Your camera/recorder can record directly from the built-in video camera.

Playback — Video/audio played back by the video recorder or fed directly from the camera may be viewed and heard on a TV receiver/monitor by using the audio/video output cable.

Colour Liquid Crystal Display (LCD) Monitor with Speaker

NTSC Playback (Multi Playback)

It is possible to play NTSC tapes recorded in the SP mode.

Active Light (for VM-H855LE/VM-H955LE)

Digital Zoom up to $\times 400$

Digital zoom magnifies the image up to 100 times in normal use, 264 times when the zoom mode is switched, and 400 times when instant zoom is used at the same time.

Digital Effect

Use this function to digitally process the image you are going to record or the playback image. During recording, you can select among six modes: 16×9 , negative/positive, $\times 400$ digital zoom, half-

mirror, mosaic, or art. During playback, you can select among three modes: 16×9 , art, or sepia.

Programme AE (Auto Exposure)

The camera automatically determines the shutter speed and aperture according to the brightness of the subject.

Electronic Image Stabilizer (EIS)

This function corrects slight shaking when zooming in on a distant subject.

Auto Focus Power Zoom Lens

The $22\times$ autofocus zoom lens uses video auto focus system to automatically maintain focus and to allow you to zoom in and out for tele or wide angle shots at just the touch of the zoom button.

Wireless Remote Control is Provided Fade-in/Fade-out

Use this function to make the picture appear and disappear gradually. You can select six fade modes — white fade, wipe fade, mosaic fade, art fade, zoom fade and black-and-white fade.

Automatic Title Recording

This function automatically records the selected title or created title on the tape together with the date for about 10 seconds after recording is started.

Date Search

The date search function memorizes the start and end positions of recordings you made on a specific day so you can easily locate those positions later as long as the cassette is left in the camera/recorder.

Types of differences

	VM-E555LE	VM-H755LE	VM-H855LE	VM-H955LE
System	Hi8	Hi8	Hi8	Hi8
Audio	Monaural	Stereo	Stereo	Stereo
LCD monitor size	2.5-inch	2.5-inch	3.0-inch	3.5-inch
Active light	No	No	Yes	Yes
Programme AE	Auto	Auto/Mode select	Auto/Mode select	Auto/Mode select

- This instruction manual shows the illustrations for the VM-H955LE.

With this camera/recorder you can view the picture being recorder or the playback picture whether on the LCD monitor or in the viewfinder. Opening or closing the LCD monitor switches the picture to appear on the LCD monitor or in the viewfinder. The following text describes the operation assuming that the viewfinder is used as a major monitor device.

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ACCESSORIES

Check to make sure you have the following components and accessories (besides the camera/recorder unit itself) before disposing of the packing material.

1. Audio/Video Output Cable

*1 Cable for VM-E555LE

*2 Cable for VM-H755LE/VM-H855LE/
VM-H955LE

2. Battery Pack

3. AC Adaptor

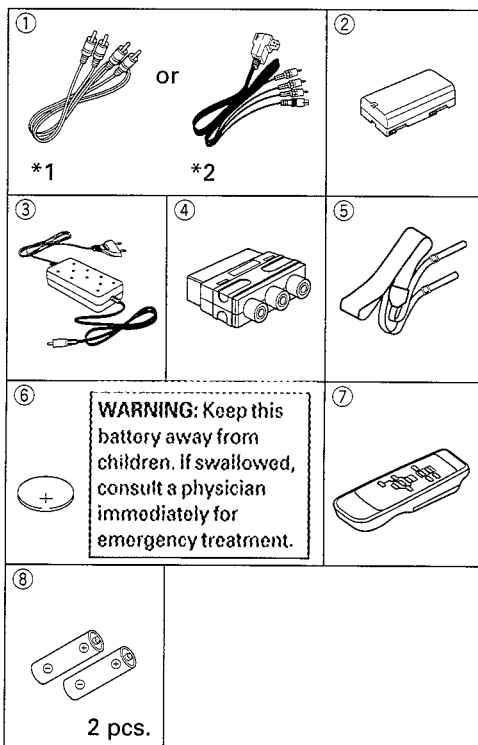
4. AV Plug Adaptor

5. Shoulder Strap

6. Battery for Date/Time (CR2025)

7. Remote Control

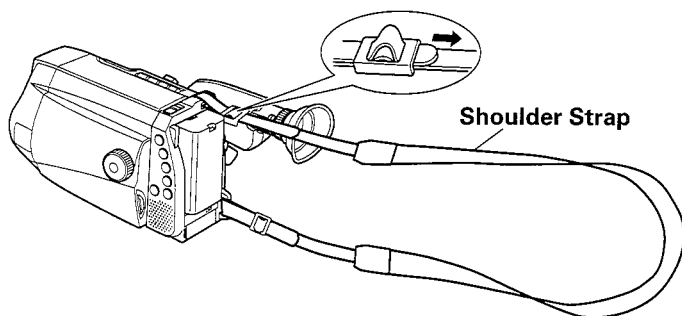
8. Batteries for Remote Control



HOW TO INSTALL THE SHOULDER STRAP

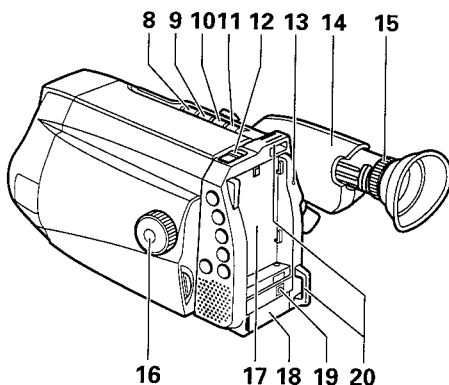
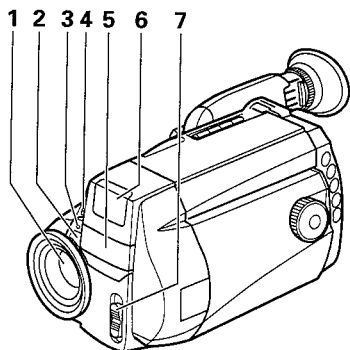
Attach the shoulder strap as illustrated below.

NOTE: When carrying the camera/recorder with the shoulder strap, put the electronic viewfinder down to its original position so that direct sunlight does not enter the viewfinder.



CONTROLS AND FUNCTIONS

ENGLISH



1. Lens Door

The door will automatically open when the CAM/OFF/VIDEO switch is set to "CAM". Setting the switch to "OFF" will close the door.

2. Infrared Ray Receiving Section

Receives infrared rays from the remote control unit.

3. Record Indicator

This indicator flashes to indicate that the camera/recorder is recording.

4. Active Light Switch

(for VM-H855LE/VM-H955LE)

When this switch is set to AUTO, the active light turns on or off automatically according to the brightness of the object. When switch is set to ON, the active light turns on. Set the switch to OFF to turn the light off manually.

5. Microphone

Sensitive to sounds coming from the direction in which the camera is pointed.

6. Active Light

(for VM-H855LE/VM-H955LE)

When the CAM/OFF/VIDEO switch is in CAM position, the active light is turned on and off automatically or manually depending on the position of the light switch. Turn the active light off after use.

NOTES:

- The active light will not turn on when the CAM/OFF/VIDEO switch is set to VIDEO.

- If there is no cassette in the camera/recorder, or if a recording prevented cassette is inserted with the active light switch set to AUTO, the light will automatically go out after 5 minutes.

7. CAM/OFF/VIDEO Switch

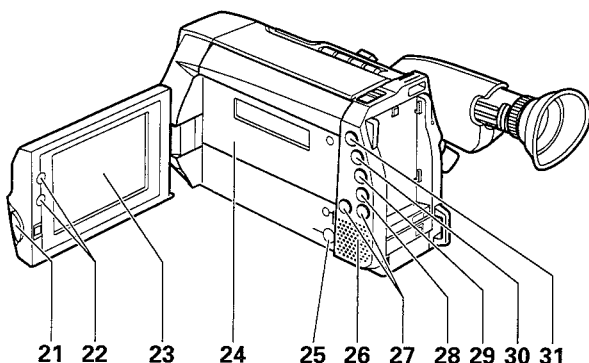
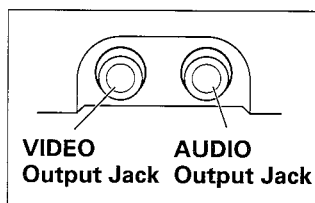
This switch turns the camera/recorder on and off. Set the switch to CAM for camera recording, and to VIDEO for playback. Hold down the small red button as you slide the switch to CAM or VIDEO. You do not need to hold down the red button to slide the switch to OFF.

8. F.FWD Button

Press this button during stop or rewind mode, and fast-forwarding starts. During fast forward, press and hold this button to visually scan the tape forward at 9 times the normal playback speed. Press the button during playback of tape, and the tape is played back in the forward direction approximately 9 times faster than the normal speed to confirm the recorded content. Press PLAY button to return to normal playback mode or press STOP button to stop tape movement ("F-SEARCH AND R-SEARCH", page 28). Also use F.FWD button when setting the date/time and creating a title.

NOTE: You can also visually scan forward when the camera/recorder is in record/pause (stand-by) mode by pressing and holding this button.

18 Behind the cover



9. PLAY Button

Use to play back recorded tapes and create a title.

NOTE: When the camera/recorder is in record/pause (stand-by) mode, pressing and holding this button will play the tape at normal.

10. REW/REVIEW Button

Press this button during stop or fast forward mode, and fast-rewinding starts. During rewind, press and hold this button to visually scan the tape backwards at 7 times the normal playback speed. Press the button during playback of tape, and the tape is played back in the rewind direction approximately 7 times faster than the normal speed to confirm the recorded contents. Press PLAY button to return to normal playback mode or press STOP button to stop tape movement ("F-SEARCH AND R-SEARCH", page 28). Also use this button to review the last few seconds of the tape you are recording. Use REW/REVIEW button when setting the date/time and creating a title.

NOTE: You can also visually scan backward when the camera/recorder is in record/pause (stand-by) mode by pressing and holding this button.

11. STOP Button

The STOP button is used to stop playback, rewind, and fast forward operations. The STOP button has no effect during record

operation. Also use STOP button when setting the date/time and creating a title.

12. BATTERY Release Lever

Releases the battery attached to camera/recorder.

13. CHARGE Indicator

When the battery is being charged, this indicator will flash or light to show the charged level as a reference ("CHARGING THE BATTERY", page 17).

14. Electronic Viewfinder

15. Diopter Control

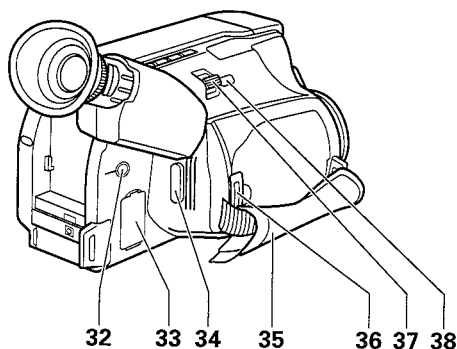
To use the electronic viewfinder, pull the eye cup all the way, and then turn this control for your optimum focus adjustment.

16. PROGRAM AE Dial (for VM-H755LE/ VM-H855LE/VM-H955LE)

Use this dial to select the exposure that suits the subject condition. Turn the dial to select the desired recording mode: you can record scenes with the exposure according to the mode ("USING THE PROGRAM AE DIAL", page 37). During playback, this dial can also be used to adjust the finer details of playback pictures. (See page 38 for details.)

17. Power Supply Attachment Section

Attach the battery pack (provided) here.



18. AUDIO/VIDEO Output Jacks (Behind the cover)

Use this jack to connect the camera/recorder to a VCR or television. (See pages 51, 55, 63.)

- Connect the yellow plug of the audio/video cable to the yellow jack (VIDEO OUT) and the white plug to the white jack (AUDIO OUT).

19. DC IN Jack

Plug in the AC adaptor here to charge a battery or power the camera/recorder from AC outlet. In addition, connect the optional car battery cord to this jack, in which case, you will need a DC cord (optional).

20. Shoulder Strap Slots

Attach the shoulder strap here.

21. OPEN Button

Push this button to open the LCD monitor.

22. Bright Control Buttons

Use these buttons to adjust the brightness of the LCD monitor screen.

23. LCD Monitor

You can view the pictures as they are being recorded and play them back immediately after recording on the LCD screen.

24. Cassette Holder

Press the EJECT button to open the cassette holder. Be aware of the cassette direction when inserting.

NOTE: Power source must be connected to open the cassette holder.

25. EJECT Button

Operates with the CAM/OFF/VIDEO switch either on or off, if a power source is connected to the camera/recorder.

NOTE: The EJECT button is inoperable unless the LCD monitor is completely open.

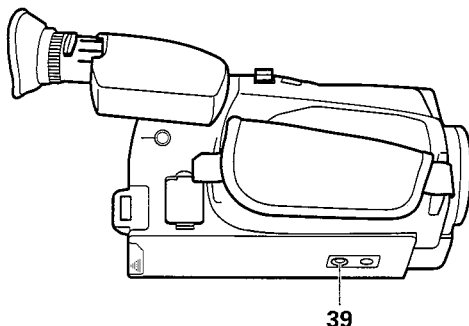
26. Speaker

You can listen to the recorded sound.

NOTE: No sound is heard when the LCD monitor is closed.

27. FOCUS/VOL. (volume) Control Buttons

When the CAM/OFF/VIDEO switch is set to CAM, these buttons will be the focus control buttons. Press them simultaneously to select manual or automatic focusing. To control focus manually, press the ▲ or ▼ button to bring the subject into focus. When manual focus has been engaged, "FOCUS" will appear in the viewfinder or on the LCD monitor. When you are viewing playback pictures on the LCD monitor with the CAM/OFF/VIDEO switch set to VIDEO, these buttons can be used to control the volume of the built-in speaker.



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28. DATE/DISP. Button

When the CAM/OFF/VIDEO switch is set to CAM, this button can be used as the DATE or DISPLAY button; set the date and time, and select the date display you want to record. In the VIDEO mode, the DATE/DISP. button is used as the DISPLAY button.

NOTE: Be sure to insert the clock battery before setting the date and time or creating a title.


29. EFFECTS Button

Use this button to digitally process the image you are going to record or the playback image. During recording, you can select among six modes: 16×9, negative/positive, ×400 digital zoom, half-mirror, mosaic, or art. During playback, you can select among three modes: 16×9, art, or sepia.

30. FADE Button

During recording you can add a professional touch to your recordings by fading in and out of the scenes. You can select the six fade modes — the white fade, wipe fade, mosaic fade, art fade, zoom fade and black-and-white fade.

31. EIS (Electronic Image Stabilizer) Button

Press to display “” in the viewfinder or on the LCD monitor. EIS corrects slight shaking of the image to be recorded.

32. PAL60 Button (Multi Playback)

Used when playing NTSC tapes recorded in the SP mode.

Press this button to display “PAL60” only when connecting the camera/recorder to a PAL TV which handles PAL60 mode signal and has vertical sync adjustment circuitry for 60Hz.

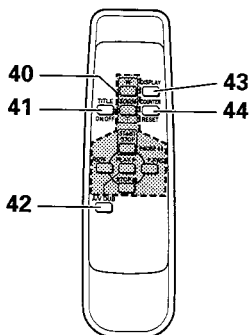
NOTES:

- A PAL recorded tape cannot be normally played back when “PAL60” is displayed.
- The PAL60 button is effective during playback only.
- See TV instruction manual for details about setting of PAL60 mode.
- Depending on the state of the tape recorded, the PAL60 button may not operate normally.
- The PAL60 mode will be released when the camera/recorder is turned off.

33. Audio/Video Output Jack (Behind the cover)

For VM-E555LE: Use the RF Converter Unit (optional) to connect this jack to a TV to view the pictures played back by the camera/recorder.

For VM-H755LE/VM-H855LE/VM-H955LE: Use the Audio/Video output cable (provided) or RF Converter Unit (optional) to connect this jack to a TV to view the pictures played back by the camera/recorder.



34. Start/Stop Button

This button is used to control the camera/recorder. When this button is pressed with the camera/recorder set to the record/pause mode, the tape runs to start recording.

When this button is pressed again, the tape stops and the camera/recorder enters the record/pause (stand-by) mode. This button may also be used to display a still picture during playback mode.

35. Hand Strap

Adjust to best fit to your hand. (Refer to page 10.)

36. Clock Battery Compartment

Pull the battery holder and install the lithium battery (provided).

37. Power Zoom Control

This control performs zooming electrically.

"W": Picture becomes wider gradually.

"T": Picture becomes telescopic gradually.

38. INST. ZOOM (Instant Zoom) Button

Use this button to magnify the image being recorded 1.5 times momentarily.

39. Tripod Mount Screw

Use this screw to mount the camera/recorder on a tripod (generally available).

40. Camera/Recorder Control Buttons

These shaded buttons on the remote control function the same as those on the camera/recorder.

41. TITLE ON/OFF Button

(only on the remote control)

Use this button to store a title in memory or recall the stored title and record it superimposed on the picture being shot.

42. A/V DUB Button

(only on the remote control)

This button is used to record new audio and video in place of existing audio and video.

43. DISPLAY Button

Use this button to select the display in the viewfinder or on the LCD monitor.

44. COUNTER RESET Button

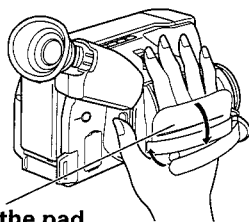
(only on the remote control)

Press this button to reset the linear time counter in the viewfinder or on the LCD monitor to "0:00:00".

ADJUSTING THE HAND STRAP

Adjust the length of the hand strap so you can press the Start/Stop button and power zoom control easily with your fingers.

NOTE: After adjustment, close the hand strap's pad securely.



Close the pad.

ELECTRONIC VIEWFINDER POSITION ADJUSTMENT

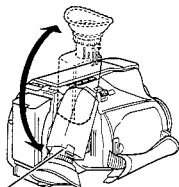
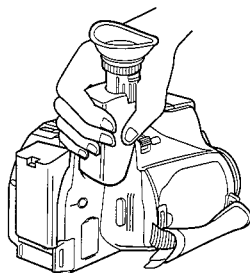
Adjust the electronic viewfinder to a position where you can see through it easily.

NOTES:

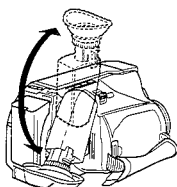
- Do not point the electronic viewfinder to direct sunlight; it could damage the viewfinder.
- Put the viewfinder back to original position when storing the camera/recorder into the carrying case or carrying the camera/recorder.
To replace the viewfinder, retract the eye cup stem or turn over the eye cup.

CAUTION:

Do not hold the unit by the electronic viewfinder when carrying as this could cause a malfunction.



Retract the eye cup stem.



Turn over the eye cup.

EYEPIECE ADJUSTMENT

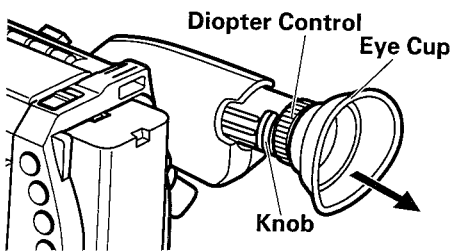
To use the electronic viewfinder, grasp the knobs on both sides of the eye cup stem and pull the eye cup all the way out, then turn the diopter control for optimum focus adjustment.

Since the eye cup has already been pulled out at the factory, in present condition, only adjustment of the diopter control is necessary.

NOTES:

- Be sure to pull out the eye cup all the way so that you can see the subject in the viewfinder clearly.

- Hold the knobs on both sides of the eye cup stem to pull out the eye cup.
- The eye cup stem can be retracted when the camera/recorder is being carried.



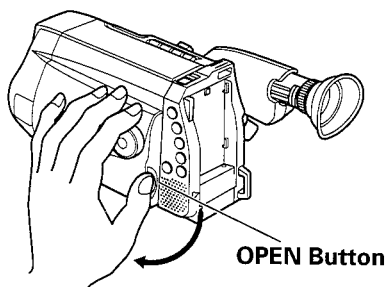
LCD MONITOR

When using the LCD monitor during recording and playback, you can adjust the brightness of its screen and the angle of the monitor.

Opening the LCD monitor

1. Press the OPEN button to open the LCD monitor.

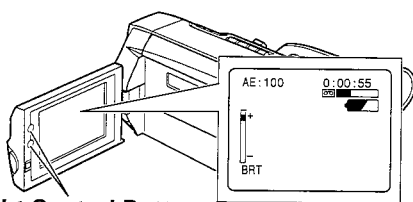
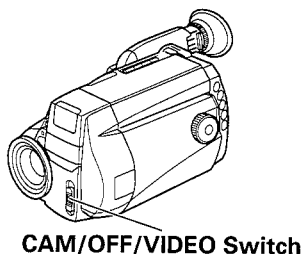
NOTE: Opening or closing the LCD monitor switches the picture to appear on the LCD monitor or in the viewfinder.



Adjusting the brightness of the LCD screen

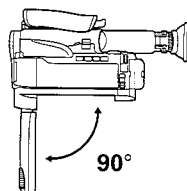
NOTE: Even when the picture on the LCD monitor is adjusted, the recorded video will not change.

1. Load the battery (Refer to "POWER SOURCES" on page 14). Press the red button on the CAM/OFF/VIDEO switch as you slide it to CAM or VIDEO.
2. Use the brightness control buttons to adjust the brightness of the LCD screen. When either button is pressed, the brightness control display will appear on the LCD monitor for about 5 seconds. Press \blacktriangle to increase brightness, or \blacktriangledown to decrease it. After 5 seconds, the adjustment display will automatically disappear.

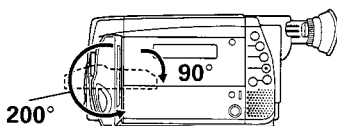


Range in which the LCD monitor can be moved

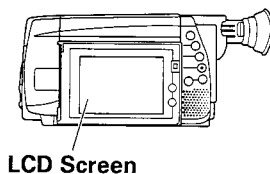
Viewed from Top



Viewed from Side



Viewed from Side



- If the LCD monitor is turned 90° so that it faces the same direction as the lens when the camera signal is being recorded during recording, recording pause, instant review, editing, A/V dubbing or A/V dubbing pause, the image on the monitor screen will become a mirror image, and the viewfinder will turn on. The on-screen display on the LCD monitor will also be as if reflected on a mirror.
- If the LCD monitor is closed with the screen facing to the side, the mirror image will change to a normal image when the LCD monitor has been closed about 45°; also, the viewfinder will turn off.


Cautions on LCD monitor screen

- Do not touch the LCD screen with your fingers as the screen could get dirty and the picture will not be seen clearly. If the LCD screen becomes dirty, use a soft cloth to wipe off the dirt.
- If the camera/recorder is used in a cold place and becomes too cold, the LCD screen will be dim for a while after the power is turned on. When the temperature inside the camera/recorder rises, the brightness of the picture will become normal.
- Do not hold by the LCD monitor as this could cause a malfunction.
- Open the LCD monitor by 90° before changing its direction. If you were to attempt to invert its direction before opening it completely, it could cause a malfunction.
- The LCD monitor cannot be closed if it is tilted.
- Close the LCD monitor after making sure it is parallel with the camera/recorder. If you were to close the monitor while it faces the same direction as the lens or it is diagonal, it could damage the LCD monitor.
- Do not disassemble the LCD monitor as this might cause a malfunction.
- When opening the LCD monitor, be careful that no water droplets adhere the monitor screen and that no water or dust enters the camera/recorder through the gap as it could cause a malfunction.

ACTIVE SCREEN

The camera/recorder automatically brightens the backlight of the LCD monitor when you are recording a bright subject outdoors, so that the LCD screen is easy to see.

NOTES:

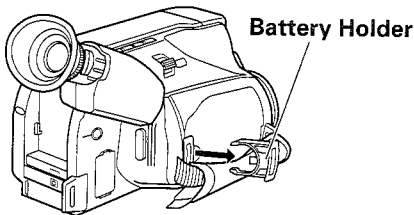
- When you record a bright subject outdoors, the camera/recorder operating time will be less than when recording indoors.
- Even if you record outdoors, the LCD monitor backlight may not brighten, if you are aiming at a dark subject.
- While the battery charge indicator “” is flashing, the Active Screen function will not operate.

LOADING BATTERIES FOR CLOCK AND REMOTE CONTROL

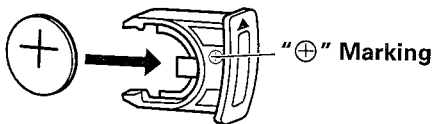
Clock battery

You may want to install the lithium battery (provided) immediately to prevent losing it.

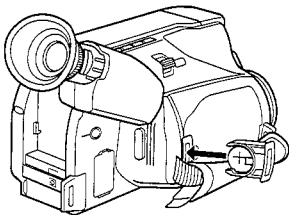
1. Pull out the battery holder using such as coins.



2. Insert the battery with the "+" terminal facing up.



3. Fully insert the battery holder into the camera/recorder.



NOTES:

- When replacing the battery, use 3V micro lithium battery CR2025.
- Danger of explosion if battery is incorrectly replaced.

This product uses the lithium battery which contain dangerous chemicals. Handle and dispose of with great care.

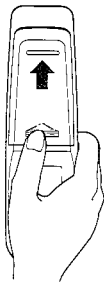
WARNING

- Keep the battery away from children and pets. If swallowed consult a physician immediately for emergency treatment.
- Keep the battery in a dark, cool, dry place.
- Do not throw the battery in a fire.
- Do not short circuit the battery.
- Do not disassemble the battery.
- Do not hold the battery with the metallic tweezers.
- Do not re-charge the battery.
- Wipe the battery with dry cloth and set properly confirming ends (+, -).
- After use please bring back to retail shop.

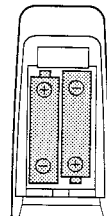
Remote control batteries

The remote control requires two "IEC R6" batteries.

1. Slide the cover in the direction of the arrow to remove it.



2. Install batteries.
Be careful to install with correct polarity.



3. Re-attach the cover to the remote control.

CAUTIONS ON THE BATTERIES:

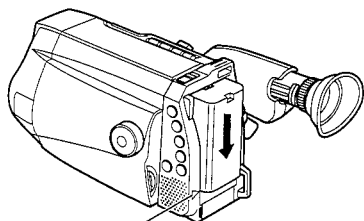
- Do not use the old and new batteries at the same time.
- Do not mix batteries of different types.
- Do not short, take apart or dispose of batteries by throwing them into a fire.
- When liquid leaks, wipe it off completely and then insert new batteries.

POWER SOURCES

NOTE: Be sure to turn off power of the camera/recorder when attaching or detaching a power supply (battery, AC adaptor, etc.) to the camera/recorder.

When using with battery (provided)

NOTE: The battery must be charged before it can be used for the first time. Refer to "CHARGING THE BATTERY" on page 17.



Mark ►

1. Align the bottom of the battery with mark ► on the camera/recorder so that the battery fits into the grooves.
2. Slide the battery downward, as illustrated.

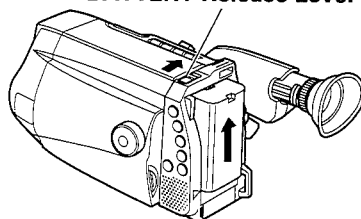
NOTES:

- Always remove the battery from the camera/recorder after use.
- We cannot guarantee against malfunctions of the camera/recorder which occur when you use battery packs other than those specified.
- Always attach a battery by the procedure described here. Attaching a battery forcibly could damage it.

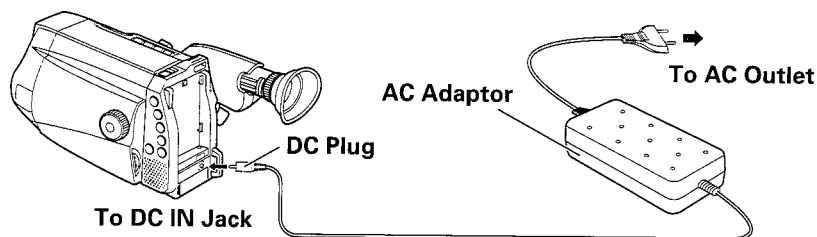
■ Removing the battery pack

Slide the BATTERY release lever in the direction of the arrow and hold it, then slide the battery to the upper side and remove.

BATTERY Release Lever



When using with the AC adaptor (provided)



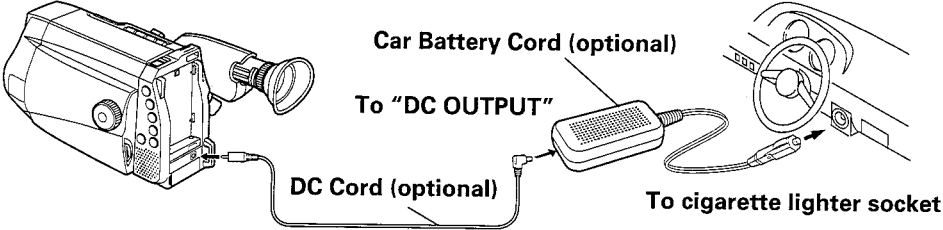
(continued on next page)

1. Connect the DC plug of the AC adaptor (provided) to the DC IN jack of the camera/recorder.
2. Plug the AC adaptor power cord into an AC electrical outlet.
3. After the AC adaptor has been used, unplug its power cord from the AC outlet.

NOTE: This AC adaptor is universal for use with AC 110 — 240V around the world. If you use the camera/recorder in some foreign countries, an AC plug adaptor (Not supplied) may be necessary.

See the bottom of the AC adaptor.
The rating label is located on the bottom of the AC adaptor.

When using with the car battery (By using optional car battery cord Hitachi VM-CC80E)

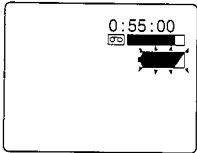


1. Connect one end of the DC cord (optional) to the camera/recorder, as illustrated.
2. Connect the other end of the DC cord to DC OUTPUT of the car battery cord.
3. Connect the car battery cord to the car's cigarette lighter socket.

- NOTES:**
- You need the optional VM-CC80E KIT.
 - The car battery cord is designed to be used only with automobiles having a 12/24-volt negative ground system.
 - To prevent fire or shock hazard or damage to your camera/recorder, please use only the specified car battery cord.
 - You cannot use the car battery cord to charge a battery.

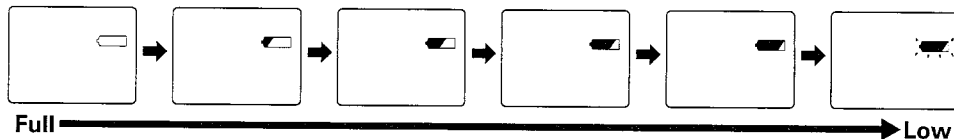
CHECKING THE BATTERY PACK

When the camera/recorder is turned on, the battery level indicator " " is displayed in the viewfinder or on the LCD monitor indicating the condition of camera/recording battery.



- NOTES:**
- When the " " indication appears in the viewfinder or on the LCD monitor and flashes while the camera/recorder is operated with a battery pack (provided), it indicates that the battery is insufficiently charged. Charge the battery pack or replace it with a charged battery pack.
 - The battery level indicator does not appear when the camera/recorder is powered by the AC adaptor.

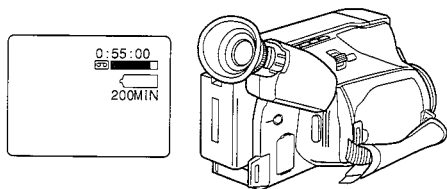
Battery's charge



Knowing remaining battery power time

If you use the VM-BPL30 lithium-ion battery (optional) to power the camera/recorder, you can find out how much camera/recorder operating time remains, with the battery.

The VM-BPL30 measures the battery consumption, calculates the remaining battery time, and displays it (in minutes) in the viewfinder or on the LCD monitor.



Since the camera/recorder power consumption varies according to how frequently autofocusing or zooming is used, the displayed time may decrease or increase several minutes at a time, or may not change for some time.

NOTES:

- The remaining battery time will appear 10-15 seconds after the CAM/OFF/VIDEO switch is set to CAM; it will not appear in the VIDEO position.
- When the remaining time decreases to 5 minutes or less, the time display will disappear. We recommend that you replace the battery earlier.
- If you connect the VM-BPL30 battery with the remaining battery time of 5 minutes or less, the time will not be displayed.
- If the correct remaining time does not appear, use up the battery attached to the camera/recorder, and then fully charge it.
- If you repeat charging and discharging the battery before using it up, the correct remaining time may not be displayed.

- If the battery is used at low temperatures, the actual operating time with battery will be substantially different from the displayed time, and the correct time may not appear.
- If the battery which has been used at low temperature is subsequently used at normal temperature, display of remaining battery time will be incorrect. For display of correct remaining time, fully charge the battery.
- The remaining battery time will not appear when you are recording an image of yourself, or the LCD monitor is put back to camera/recorder with its screen facing to the side.
- If you eject and reinsert cassette after the battery is discharged, power will shut off midway and the camera/recorder will stop. When the battery is discharged, immediately remove it from the camera/recorder and charge it again.
- When the VM-BPL30 battery is used, the battery level indicator "□" may not match the remaining battery time display (in minutes). In this case, refer to the remaining time display when using the camera/recorder.

To display the correct remaining battery time on camera/recorder:

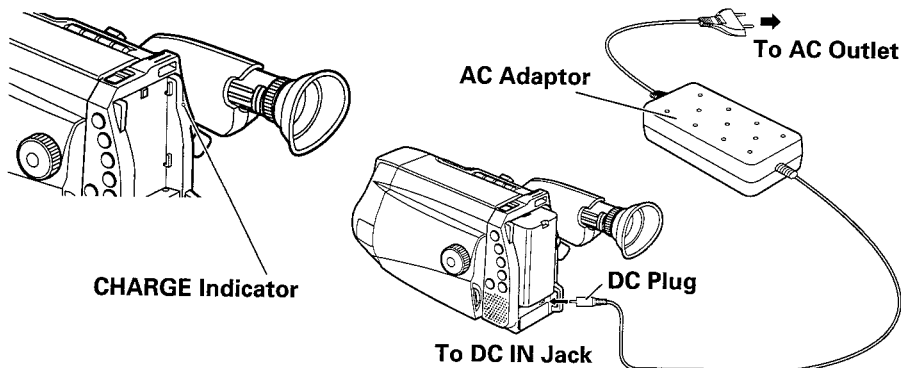
- Fully charge the battery before use.
- Turn the camera/recorder on and leave it pointing at a still subject for about 30 seconds. Do not move the camera/recorder during this time.
- If display does not change some time, open and close the LCD monitor while you are using the camera/recorder.

CHARGING THE BATTERY

The first step is to set the battery for charging. To charge the battery, attach it to the camera/recorder, and connect the VM-ACE5E AC adaptor. Charge the battery at a temperature range of 10°C – 30°C to prevent damage to the battery.

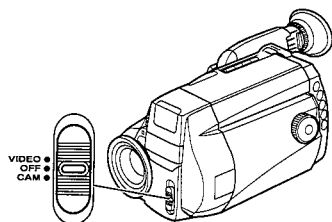
NOTES:

- This camera/recorder operates with a lithium ion battery such as VM-BPL13/VM-BPL27/VM-BPL30/VM-BPL60.
- We cannot be responsible for any malfunctions of the camera/recorder which occur when you use battery packs other than those specified.



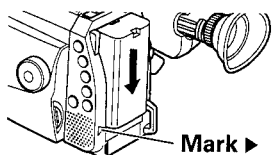
Charge the battery on a flat surface that is free of vibration.

1. Make sure the CAM/OFF/VIDEO switch is set to OFF position.



2. Attach the battery pack to the camera/recorder.

- Align the bottom of the battery with mark ► on the camera/recorder so that the battery fits into the grooves. Then slide the battery downward, as illustrated.



NOTE: Always attach a battery only by the procedure described here. Attaching a battery forcibly could damage it.

3. Plug the AC adaptor power cord into an AC outlet.
4. Connect the AC adaptor DC plug to the DC IN jack of the camera/recorder. Charging will start within five seconds. During charging, the CHARGE indicator of the camera/recorder will flash or light to give you a reference of the charged level.

NOTES:

- If the CHARGE indicator flashes once every two seconds, the battery could be defective.
- The CHARGE indicator will not light at all when the AC adaptor is defective.
- You can use the battery before it is completely charged.
- When charging is complete, the CHARGE indicator on the camera/recorder will light. If the fully charged battery is removed and then re-attached, the camera/recorder will again enter the charge mode, and the CHARGE indicator will flash. It will take a few minutes for the camera/recorder to enter the charge complete status.
- Charging at low temperatures will decrease charge capacity.

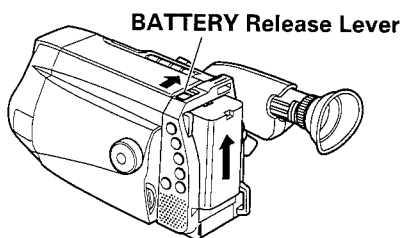
- After charging is complete, disconnect the AC adaptor DC plug from the camera/recorder.
- Disconnect the AC plug from the AC outlet.
- Detach the battery from the camera/recorder.

NOTES:

- Always remove the battery from the camera/recorder after use.
- Charging is not done when the CAM/OFF/VIDEO switch of the camera/recorder is set to CAM or VIDEO. However, if recording pause continues for more than 5 minutes in the CAM mode, the camera/recorder will automatically turn off, after which charging will start.
- If the DC plug is disconnected when the battery is attached and the CAM/OFF/VIDEO switch is set to CAM or VIDEO, the camera/recorder will turn off once, but then automatically turn on again. Note that the battery will discharge if the camera/recorder is left as it is.

■ Removing the battery pack

Slide the BATTERY release lever in the direction of the arrow and hold it; then slide the battery to the upper side and remove.



■ Reference of charged level

You can know the approximate charge level of battery by observing how the CHARGE indicator of camera/recorder flashes or lights:

Charge level	CHARGE indicator
0-50% charge	Flashes once at approx. one-second intervals.
50-75% charge	Flashes twice at approx. one-second intervals.
More than 75% charge	Flashes three times at approx. one-second intervals.
Full charge	Steady light

■ Charging time

Battery	VM-BPL13	VM-BPL27	VM-BPL30	VM-BPL60
Charging				
Full charge	170 min.	300 min.	330 min.	590 min.
75% charge	100 min.	190 min.	210 min.	410 min.

■ Operating time

The camera/recorder operating time depends on how often you turn power on/off and use start/stop and zoom.

Continuous recording

EVF: when using the viewfinder

LCD: when using the LCD monitor

Battery		VM-BPL13	VM-BPL27	VM-BPL30	VM-BPL60
Camera/recorder					
VM-E555LE	EVF	160 min.	330 min.	370 min.	760 min.
	LCD	120 min.	260 min.	290 min.	630 min.
VM-H755LE	EVF	150 min.	320 min.	360 min.	740 min.
	LCD	120 min.	250 min.	280 min.	580 min.
VM-H855LE	EVF	150 min.	320 min.	360 min.	740 min.
	LCD	120 min.	250 min.	280 min.	580 min.
VM-H955LE	EVF	150 min.	320 min.	360 min.	740 min.
	LCD	110 min.	240 min.	260 min.	550 min.

Typical recording

EVF: when using the viewfinder

LCD: when using the LCD monitor

Battery		VM-BPL13	VM-BPL27	VM-BPL30	VM-BPL60
Camera/recorder					
VM-E555LE	EVF	90 min.	190 min.	200 min.	430 min.
	LCD	70 min.	150 min.	170 min.	360 min.
VM-H755LE	EVF	80 min.	180 min.	200 min.	420 min.
	LCD	70 min.	140 min.	160 min.	330 min.
VM-H855LE	EVF	80 min.	180 min.	200 min.	420 min.
	LCD	70 min.	140 min.	160 min.	330 min.
VM-H955LE	EVF	80 min.	180 min.	200 min.	420 min.
	LCD	60 min.	130 min.	150 min.	310 min.

Notes on the battery

- It is recommended that the battery always be left in the discharged state when not in use, and charged before you use it.
- Avoid storing a fully charged battery, and do not store it in a place where the temperature is high: this will damage the battery.

(continued on next page)

- Do not operate the battery at temperature below -10°C or above 45°C . At extremely low temperatures operation time decreases, while at high temperature the battery may be damaged.
- Do not attach a hot battery to the camera/recorder. Allow it to cool.
- There are no user-serviceable parts inside the battery or AC adaptor.
- Throwing the battery into fire or exposing it to excessive heat (above 60°C) may cause injury.
- Shorting the battery's terminal increases risk of fire or electrical shock.

INSERTION AND REMOVAL OF CASSETTES

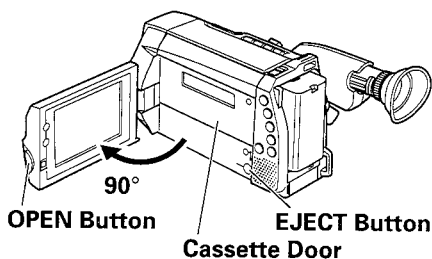
Before inserting or removing a cassette, be sure to connect the power source. When a power source is connected, the cassette can be ejected and removed whether the power is on or off.

Insertion

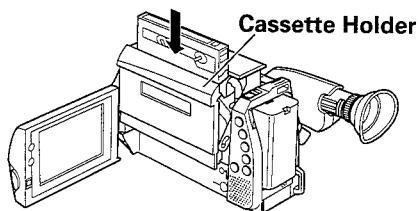
1. Press the OPEN button to open the LCD monitor ("LCD MONITOR", page 11).
2. Push the EJECT button.
"EJECT" will appear on the LCD monitor, and the cassette door will open automatically.

CAUTION: Do not touch the cassette door when a cassette is being loaded or unloaded. If your finger is caught by the metal section of holder, it could be cut.

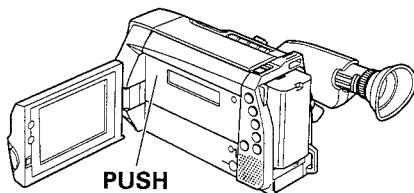
NOTE: Cassette cannot be inserted or ejected unless the LCD monitor is open: Open the monitor until it is at right angles to the camera/recorder.



3. Insert a cassette so the transparent window is toward you and the arrow toward the cassette holder. Slide the cassette into cassette holder as far as it will go.



4. Press the cassette door.
Press the section of the door marked "PUSH" until a click is heard.
Be sure that you push the cassette door marked "PUSH" to close the door.



NOTES:

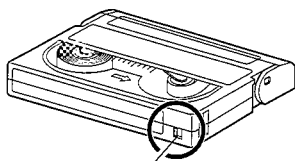
- The camera/recorder will automatically close the top of the cassette compartment. do not press the door down, or you may damage your camera/recorder.
- If "TAPE" flashes in the viewfinder or on the LCD monitor, remove the cassette and check that the tape is not damaged, is not slack or no dust adheres to it, etc. After making sure that there is no abnormality, reinsert the cassette. If "TAPE" reappears, see "TROUBLESHOOTING" on page 67.
- If the tape is near the winding end, it may take longer to load it.

Removal

Press the EJECT button. "EJECT" will appear on the LCD monitor, and the cassette door will open automatically. Remove the cassette.

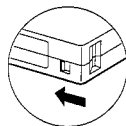
8 mm video cassette

An 8 mm Video Cassette has a record-protect tab on the side of the cassette that can be slid to prevent accidental erasure of recorded material.

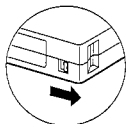


Record-Protect Tab

To prevent accidental erasure, slide the record-protect tab in the direction of the arrow until the tab is completely visible.



To record on the cassette again, slide the record-protect tab in the direction of the arrow. The tab will disappear behind the cassette case.



NOTE: After unpacking, it is recommended to fast forward tape to its middle and then rewind it before recording with the camera for the first time.

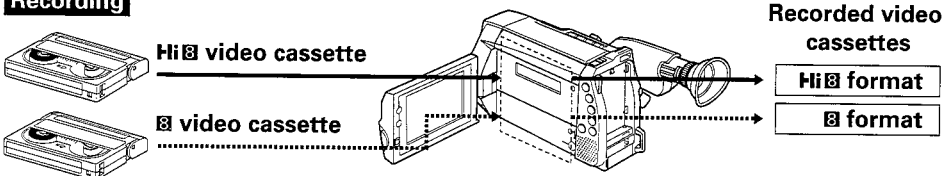
Hi8 (for VM-H755LE/VM-H855LE/VM-H955LE)

Hi8 has realized high resolution and high picture quality when compared to the standard 8 format.

The camera/recorder discriminates the type of the video cassette to be recorded automatically. If it detects a Hi8 video cassette, it records in the Hi8 format, if it detects an 8 cassette, it records in the 8 format.

Compatibility with conventional video camera/recorder

Recording

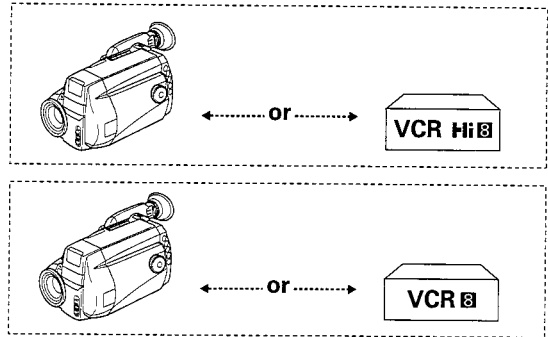


Playback

Hi8 recorded video cassette



8 recorded video cassette



- During playback, the recording format is discriminated automatically and video cassettes are played back correctly.
- Video cassettes recorded in the Hi8 format cannot be played back by an 8 VCR.

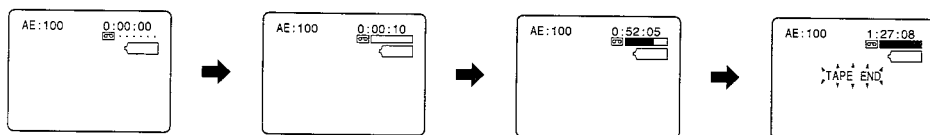
REMAINING TAPE

The tape remaining display shows the remaining tape that can be used for recording and playback in the viewfinder or on the LCD monitor using bars.

Insert a cassette into the camera/recorder; " [icon] ----- " appears in the viewfinder or on the LCD monitor. 10 seconds after recording or playback is started, the remaining tape will be displayed. The display will appear when a cassette is loaded, and it will disappear when the cassette is ejected.

NOTES:

- The maximum tape remaining is displayed by the 7 bars as shown below regardless of the recording time of the cassette being used. The remaining tape per bar is different for different cassettes.
- The tape remaining display appears 10 seconds after the tape starts to run.
- The "TAPE END" indication in the viewfinder or on the LCD monitor starts flashing when there is about three minutes recording time left on the cassette.



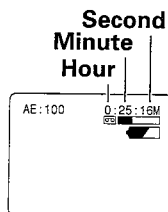
LINEAR TIME COUNTER

Shows length of tape run in hours, minutes and seconds.

When the camera/recorder is turned on, the linear time counter appears in the viewfinder or on the LCD monitor.

Load a cassette into the camera/recorder and perform recording or playback; the counter indicates the elapsed time. Press the COUNTER RESET button on the remote control to reset the counter to "0:00:00".

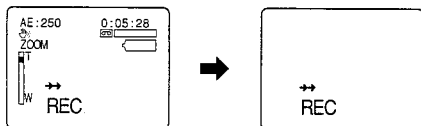
NOTE: Counter changes to "0:00:00" when cassette is ejected.



DISPLAY IN VIEWFINDER OR ON LCD MONITOR

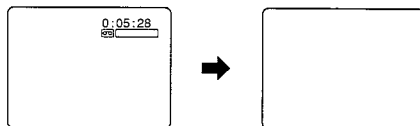
When you are using the camera/recorder, the selected functions and time counter will appear in the viewfinder or on the LCD monitor. If the characters and icons displayed during recording and playback bother you, press the DATE/DISP. button on the camera/recorder to erase them.

Example of display during recording



- Even if the shutter speed (AE:250, etc.), "ZOOM", image stabilizer icon, etc. are being displayed, only the title and date/time will be recorded on tape.

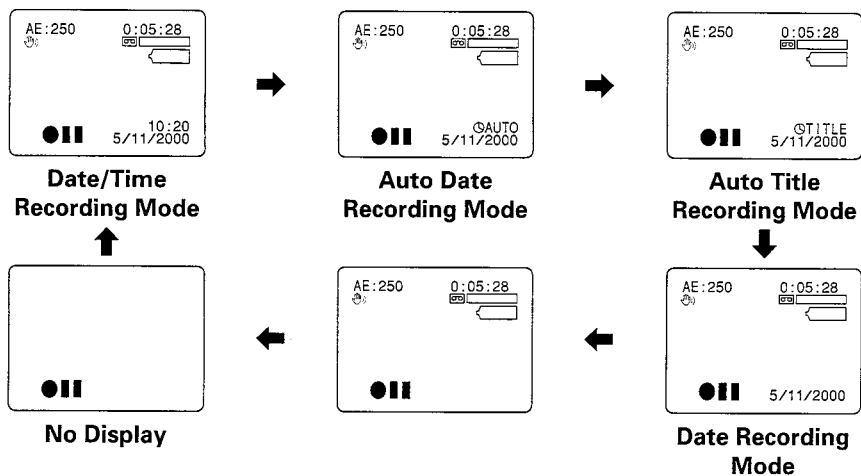
Example of display during playback



- If the time counter, etc. is displayed during playback, it will also appear on the connected TV screen. If the tape is dubbed as is, the counter will also be recorded with dubbed image: Switch off the display to avoid this.

Switching the display

CAM mode: Press the DATE/DISP. button on the camera/recorder to switch the display.

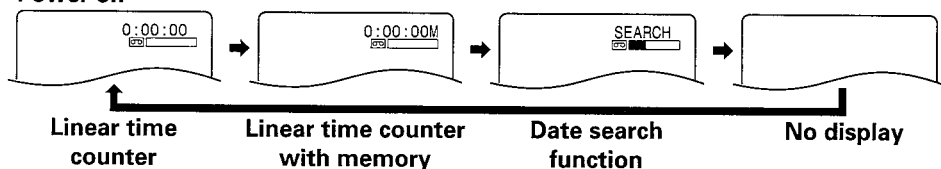


NOTES:

- When the date and time appear on the LCD monitor, you cannot erase them by pressing the DISPLAY button on the remote control. If you want to erase the on-screen display, press the DATE/DISP. button on the camera/recorder.
- In the CAM mode, you can turn the time counter memory on or off by pressing the DISPLAY button on the remote control ("MEMORY", page 50). When the camera/recorder is connected to a TV, you can turn the on-screen display on or off by pressing the DISPLAY button on the remote control.

VIDEO mode: Press the DATE/DISP. button on the camera/recorder or DISPLAY button on the remote control to switch the display.

Power on



- When a recorded tape is in the camera/recorder during the VIDEO mode, "SEARCH" appears in the viewfinder or on the LCD monitor. (See "DATE SEARCH" on page 49.)
- See "MEMORY" on page 50.

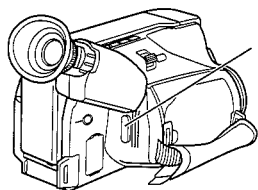
NOTES:

- The linear time counter with the memory feature and "SEARCH" in the viewfinder or on the LCD monitor can also be displayed on the connected television.
- If the LCD monitor is opened or closed (the picture is switched) during playback, the on-screen display in the picture will disappear for about one second, and then reappear again.

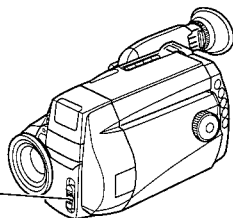
CAMERA RECORDING

This camera/recorder uses Programme AE (auto exposure) that automatically selects the optimum shutter speed (either 1/50, 1/100, 1/150, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, or 1/4000 of a second). The iris adjusts automatically in response to the shutter speed.

Information for VM-H755LE/VM-H855LE/VM-H955LE: Use the PROGRAM AE dial to select the exposure that suits the subject condition. For details, see "USING THE PROGRAM AE DIAL" on page 37.



Start/Stop Button



CAM/OFF/VIDEO Switch

1. Connect either one of the "POWER SOURCES" on pages 14 through 15.
2. Open the LCD monitor and insert a cassette ("INSERTION AND REMOVAL OF CASSETTES", page 19).
If you want to view the picture being recorded on the LCD monitor, leave the monitor open. If you want to view the picture in the viewfinder, close the LCD monitor.

NOTES:

- Pull out the eye cup all the way when using the viewfinder.
- If the power source is not connected to camera/recorder, the cassette holder will not open.
- If the LCD monitor is opened or closed during recording, several white stripes may appear in the picture, but this does not indicate a fault. However, these stripes are recorded with the picture, so it is recommended that you do not close or open the LCD monitor during recording.
- If the LCD monitor is opened or closed (the monitor picture is switched between the viewfinder and LCD monitor) during recording, the on-screen display will disappear for about one second. It is recommended that you do not switch the picture during recording as the date or title superimposed in the

picture being recorded will disappear for about one second.

3. Hold down the red button on the CAM/OFF/VIDEO switch while sliding the switch to "CAM". The lens door will open automatically. "●II" appears and the camera/recorder will enter record/pause mode automatically.
NOTE: If the record-protect tab on the cassette is closed, the "TAPE" indication in the viewfinder or on the LCD monitor flashes for several seconds and the camera/recorder will not enter record/pause mode.
4. When using the viewfinder, adjust the diopter control so the display in the viewfinder can be seen most clearly.
5. Now, press the Start/Stop button to start shooting the picture. You are now recording the picture you see through the viewfinder or LCD monitor. The "REC" indication appears in the viewfinder or on the LCD monitor instead of "●II".
6. Press the Start/Stop button to stop recording. Press the button again to resume recording. The "●II" indication appears instead of "REC" in the record/pause (stand-by) mode.
7. After recording, slide the CAM/OFF/VIDEO switch to "OFF" position to turn off the camera/recorder.
8. Always remove the power source from the camera/recorder after use.

NOTES:

- The "TAPE END" indication in the viewfinder or on the LCD monitor starts flashing when there is about three minutes recording time left on the cassette.
- If you have a cassette tape that has already been partially recorded on and you want to record the remaining blank section, see "QUICK EDIT" on page 44.

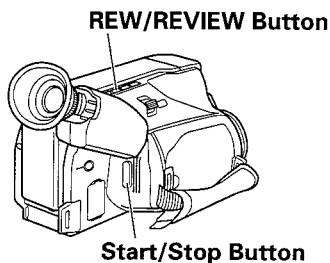
- If the record/pause mode continues for more than 5 minutes, the camera/recorder's power is automatically turned off. To turn on again, press Start/Stop button. The camera/recorder enters record/pause (stand-by) mode.

INSTANT REVIEW

1. In record/pause (stand by) mode, tap REW/REVIEW button, and the recorded scene of the last few seconds is played back in the reverse direction and then played back in the forward direction.

NOTE: Sound is heard from the speaker during normal playback.

2. When the tape reaches the end of the scene you have just recorded, the camera/recorder returns to the record/pause (stand by) mode. Recording starts again when the Start/Stop button is pressed again.



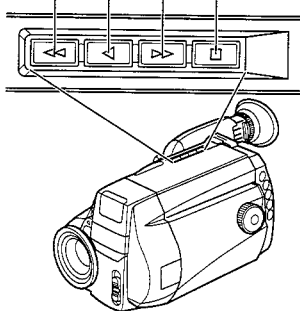
PLAYBACK

You can view recorded pictures on the LCD monitor immediately after recording.

NOTE: Make sure that "PAL60" does not appear in the viewfinder or on the LCD monitor: If it is displayed, no colour will appear in the played back picture ("MULTI PLAYBACK", page 63).

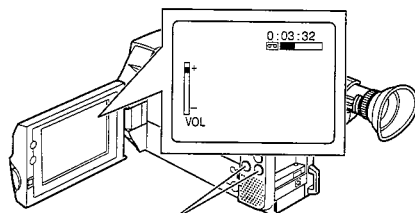
Information for VM-H755LE/VM-H855LE/VM-H955LE: Use the PROGRAM AE dial to adjust the finer details of playback pictures ("USING PROGRAM AE DIAL", page 37).

REW/REVIEW Button
PLAY Button
F.FWD Button
STOP Button



1. Hold down the red button on the CAM/OFF/VIDEO switch while sliding the switch to VIDEO.
2. Press the REW/REVIEW button to rewind the tape. For fast forwarding the tape, press F.FWD.
3. Press the PLAY button and play back the tape.

To adjust the volume for the internal speaker, press the FOCUS/VOL. control buttons. When either button is pressed, the volume adjustment display will appear on the LCD monitor for about 5 seconds. Press ▲ to increase the volume, or press ▼ to decrease it. After 5 seconds, the adjustment display will automatically disappear.



FOCUS/VOL. Control Buttons

4. Press the STOP button when you have finished.

NOTES:

- Decrease the sound volume of the camera/recorder when you play back a recording by connecting the camera/recorder to your TV. If the volume of the camera/recorder is set to maximum, the played back picture may be distorted.
- When the LCD monitor is turned on and left as it is, the monitor becomes warm, but this does not indicate a fault.
- When the CAM/OFF/VIDEO switch is set to "CAM" or "VIDEO", the LCD monitor is turned on and off automatically when the LCD monitor is opened and closed.
- It is recommended that you close the LCD monitor to save the battery power when playing back a picture on a TV without viewing it.
- Only the playback sound is heard from the internal speaker. The sound being recorded is not heard.
- No sound is heard when the LCD monitor is closed.

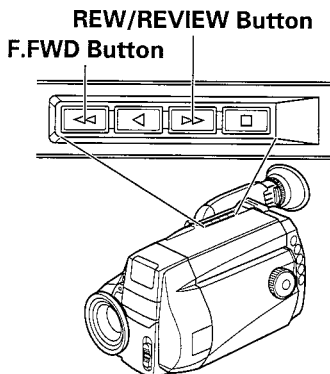
To play back a tape with the viewfinder

Close the LCD monitor, then press the PLAY button to play back the tape. The picture appears in the viewfinder.

NOTE: You cannot hear the playback sound when playing back your video with the viewfinder.

F-SEARCH AND R-SEARCH

When looking for a particular point in your videotape use the F.FWD button and REW/REVIEW button to find the spot quickly.



When the LCD monitor is open: (Clear Search)

You can view pictures with less noise on the LCD monitor during forward or reverse search.

- Press the F.FWD button during playback to play the tape forward at 6 times normal play speed. Press the PLAY button to resume normal playback.
- Press and hold the F.FWD button during fast forwarding to visually scan the tape at 9 times the normal playback speed. Releasing F.FWD returns the camera/recorder to fast forward.
- Press the REW/REVIEW button during playback to play the tape in reverse at 4 times normal speed. Press the PLAY button to resume normal playback.
- Press and hold the REW/REVIEW button during fast rewind to visually scan the tape backwards at 7 times the normal playback speed. Releasing REW/REVIEW returns the camera/recorder to fast rewind.

NOTES:

- If you are using forward or reverse search with the LCD monitor closed, then you will not be able to view pictures with less noise when you open the monitor.
- Several noise bars will appear on the TV screen during forward or reverse search.
- A noiseless picture will not appear during high-speed search even if the LCD monitor is open.
- Noise may flow during high-speed search in low temperature conditions.

When the LCD monitor is closed:

- Press the F.FWD button during playback to play the tape forward at approximately 9 times normal speed. Press the PLAY button to return to normal playback.
- Press and hold the F.FWD button during fast forwarding to visually scan the tape at 9 times the normal playback speed. Releasing F.FWD returns the camera/recorder to fast forward.
- Press the REW/REVIEW button during playback to play the tape backwards at approximately 7 times normal speed. Press the PLAY button to return to normal playback.
- Press and hold the REW/REVIEW button during fast rewind to visually scan the tape backwards at 7 times the normal playback speed. Releasing REW/REVIEW returns the camera/recorder to fast rewind.

NOTE: When you engage the F.FWD button or REW/REVIEW button the picture will have some interference or noise in the viewfinder. This is normal during search mode.

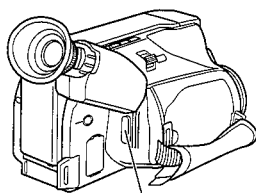
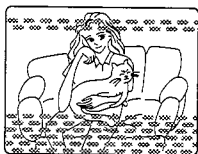


STILL

When the Start/Stop button is pressed during playback, a still picture can be seen. To start again press the Start/Stop button and playback will be resumed. You can view a still picture with less noise on the LCD monitor. (**Clear Still**)

NOTES:

- If the play pause mode continues for more than 5 minutes, the camera/recorder will automatically enter the stop mode to protect the tape from damage.
- The still picture will have several noise bars in the viewfinder and on the TV, but this does not indicate a fault.



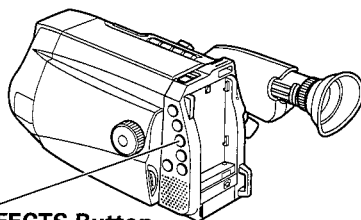
Start/Stop Button

- If you are freezing a picture with the LCD monitor closed, then you will not be able to view a still picture with less noise when you open the monitor.

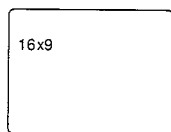
VIDEO EFFECTS IN PLAYBACK MODE

The digital signal processor (DSP) in this camera/recorder allows you to add special effects to playback pictures. Use this feature during tape dubbing, etc. to create a tape with a more artistic impression. The digital effect modes during playback include 16×9, Art and Sepia.

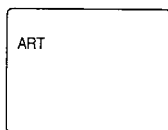
- Each time the EFFECTS button is pressed in the playback or play/pause mode, the playback mode will switch as follows:



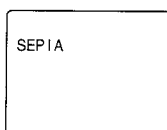
EFFECTS Button



16×9 Mode



Art Mode



Sepia Mode



Normal Mode



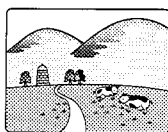
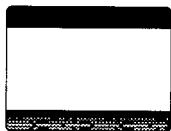
Activating video effects playback

1. Hold down the red button on the CAM/OFF/VIDEO switch while sliding the switch to VIDEO.
2. Play the tape or set the camera/recorder to the play pause mode.
3. Press the EFFECTS button to select the video effect playback mode.

16×9: 16×9 Mode

The top and bottom of the picture will be black bars.

NOTE: The bottom of the lower black bar may not actually be black in the viewfinder and on some connected TVs.



Normal Mode



16×9 Mode

ART: Art Mode

The entire picture will take on the look of an oil painting.



Normal Mode



Art Mode

SEPIA: Sepia Mode

The entire picture will be sepia.



Normal Mode



Sepia Mode

NOTES:

- To switch the mode or return to the normal picture during tape dubbing, temporarily stop the dubbing and press the EFFECTS button.
- When tape stops, the normal picture will be restored.

CHANGING THE ANGLE OF THE LCD MONITOR WHEN RECORDING

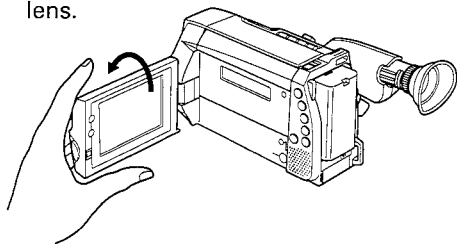
You can change the angle of the LCD monitor so that the picture on the LCD screen can be monitored from different positions.

See "LCD Monitor" (page 11) for the range in which you can change the angle of the LCD monitor.

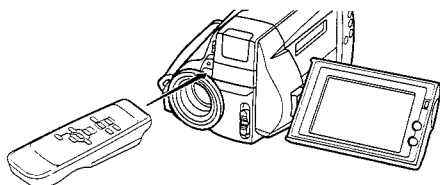
NOTE: You need the remote control to operate the camera/recorder.

Recording an image of yourself while monitoring the LCD screen

1. Open the LCD monitor ("LCD Monitor", page 11).
2. Turn the LCD monitor so the monitor screen faces the same direction as the lens.



3. Press the START/STOP button on the remote control, and the camera/recorder will begin recording.



NOTES:

- Tilt the LCD monitor in the direction of the camera lens so that its screen faces up slightly, and the screen may be viewed easily.
- When you record an image of yourself, the image displayed on the LCD monitor will become a mirror image. The on-screen display on the LCD monitor will also be as if reflected on a mirror.

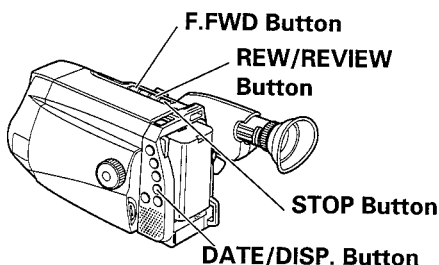
DATE/TIME SETTING

The date and time can be recorded on your tapes to act as a handy reference when viewing them at a later time. Use the following procedure to set up this display for the current date and time.

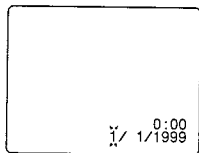
Make sure that the current time is displayed correctly before you start recording.

NOTES:

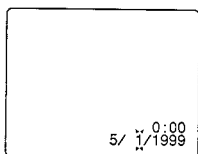
- Be sure to insert the clock battery before setting the date and time. Although the date and time can be set without the clock battery inserted, they will disappear when the battery providing power to the camera/recorder is removed.
- If you leave the powered camera/recorder for 10 minutes without a cassette inserted when the date has not been set or the clock battery is dead, the camera/recorder demonstration mode will start. To cancel the demo mode, disconnect power from camera/recorder and reconnect it, or insert a cassette.



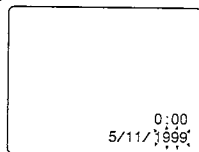
1. Slide the CAM/OFF/VIDEO switch to "CAM".
2. Press the DATE/DISP. button. "0:00" and "1/1/1999" appears in the viewfinder or on the LCD monitor and "1" flashes.



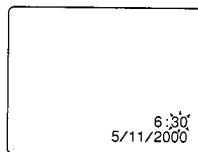
3. Press the F.FWD button to select correct date. Hold button down to advance rapidly. If you go past the date you want to set, press the REW/REVIEW button. When the correct date appears, press the STOP button.



4. Press the F.FWD button to select correct month. Hold button down to advance rapidly. If you go past the month you want to set, press the REW/REVIEW button. When the correct month appears, press the STOP button.



5. Use the F.FWD, REW/REVIEW and STOP buttons to select the correct year, hour and minute.



6. After setting to the correct minute, press the DATE/DISP. button to change the display and start the internal clock. It is recommended that you press the DATE/DISP. button to match the time signal.

NOTE: After the date and time are set, "⌚ AUTO" appears and the camera/recorder enters the automatic date recording mode. See "DATE RECORDING" on page 32.

■ To correct date/time after starting the date/time

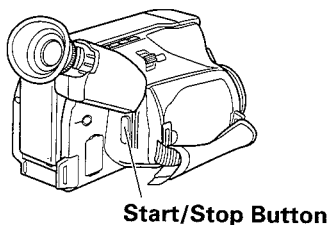
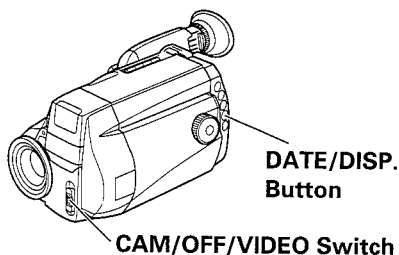
1. Press and hold the DATE/DISP. button, and then press STOP button. The date starts flashing.
2. Correct the incorrect digit by using the F.FWD, REW/REVIEW and STOP buttons.

■ To correct date/time during programming

1. Press the STOP button repeatedly until the digit that is incorrect flashes.
2. Correct the incorrect digit by using the F.FWD, REW/REVIEW and STOP buttons.

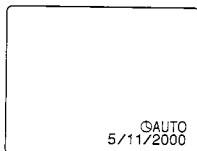
DATE RECORDING

When the date has been set, the camera/recorder will enter the automatic date recording mode automatically.



1. Press the red button on the CAM/OFF/VIDEO switch as you slide it to "CAM".
 2. Press the DATE/DISP. button to specify the date display you want to record.
- "⌚ AUTO" and date – Automatic date recording**

This option records the date automatically once a day at the beginning of recording for 10 seconds.

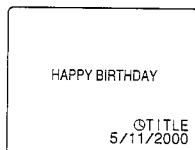


NOTES:

- The camera/recorder records the same date when:
 - the cassette is replaced.
 - you select "⌚ AUTO" and date display again.
 - the recording is less than 10 seconds long.
- If the date changes while recording continues over 10 seconds, the new date is recorded for about 10 seconds the next time you make a recording.

"⌚ TITLE" and date – Automatic title and date recording

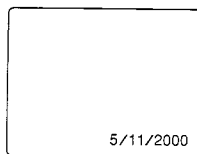
This option records the date and created title (see "CREATING AND RECORDING TITLE" on page 45) automatically once a day at the beginning of recording for 10 seconds.



NOTE: When "⌚ TITLE" is displayed in the viewfinder or on the LCD monitor, the title cannot be turned on or off using the remote control.

Date – Date recording

The camera/recorder records the date with the picture all the time.



(continued on next page)

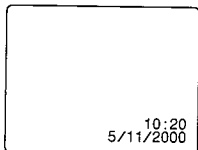
No display – No date recording

The camera/recorder does not record the date.



Date and time – Date and time recording

The camera/recorder records the date and time with the picture all the time.



NOTES:

- When "⌚ AUTO" and date display selected, the date disappears about 10 seconds after recording is started.
- When "⌚ TITLE" and date is selected, the title and date disappear about 10 seconds after recording is started.

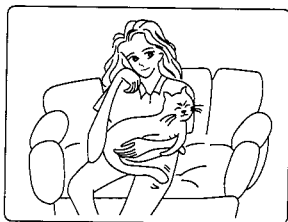
3. Press the Start/Stop button.
Recording will start.

FLYING ERASE HEAD

A rotating erase head which eliminates glitches and rainbow noise that occurs at the joints between recordings in previous models.

AUTO FOCUS

- You can always focus the object automatically if "FOCUS" is not displayed in the viewfinder or on the LCD monitor.
- **The object at the centre of the viewfinder or LCD monitor is in focus.**



Good

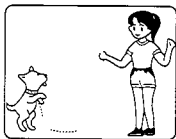


Not good

The range of object with which auto focus can be used

- On "T" side : about 1m from the lens surface to infinity.
- On "W" side : about 1 cm from the lens surface to infinity.

■ You cannot focus automatically with the following objects. Focus manually.



1. Objects not in the centre of the viewfinder or LCD monitor.



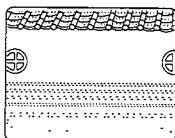
2. Objects at far and near positions at the same time.



3. Objects lit by a spotlight or neon signs, etc.



4. Objects behind glass with water droplets or dust on it.



5. Objects with almost no difference in brightness such as a white wall.



6. Objects moving rapidly.



7. Dark objects

Manual focusing

1. Press the FOCUS control buttons simultaneously to display "FOCUS" in the viewfinder or on the LCD monitor.

- When "FOCUS" is displayed, you can adjust the focus manually.
- When the FOCUS control buttons are pressed again, "FOCUS" disappears from the viewfinder or LCD monitor and the camera returns to the auto focus mode.

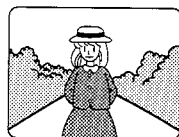
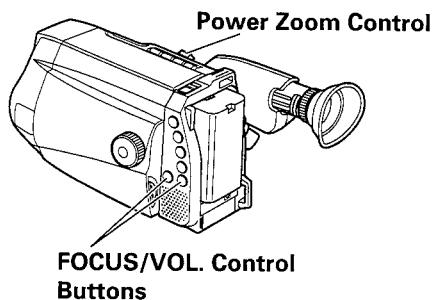
2. Zoom in on the object by sliding the power zoom control to the "T" side.

3. Press the FOCUS control ▲ (far) or ▼ (near) buttons to bring the subject into focus.

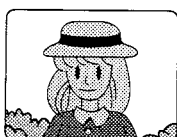
NOTE: If focusing is performed without zooming up first, the picture may become out of focus when the zoom-up is done during actual picture taking.

4. Then, zoom back the object as desired.

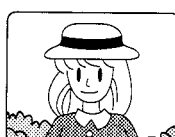
NOTE: After using the manual focus, press the FOCUS control buttons simultaneously to switch off "FOCUS" in the viewfinder or on the LCD monitor.



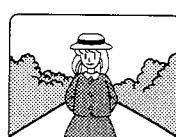
Far Object



Zoom Up



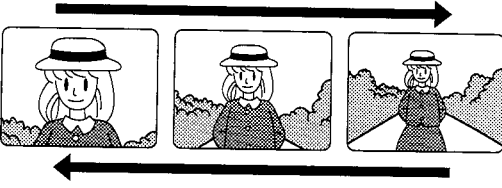
Focused



Zoom Back

POWER ZOOM

- Slide power zoom control to the "W" side, and the picture gradually widens.

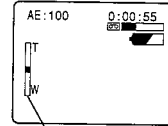
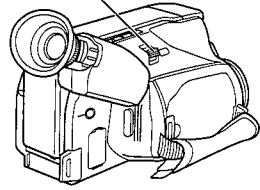


- Slide power zoom control to the "T" side, and the picture gradually becomes telescopic.
- The zoom speed varies depending on how the power zoom control lever is moved: the more the lever is moved, the higher the zoom speed will be.

NOTES:

- If "ZOOM" appears in the viewfinder or on the LCD monitor, the digital zoom function is engaged.
- When the power zoom switch is operated, the zoom position is displayed in the viewfinder or on the LCD monitor for about 5 seconds and then disappears. The zoom position is displayed in 10 steps.

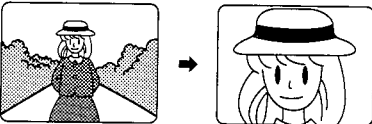
Power Zoom Control



Zoom position

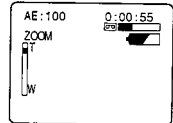
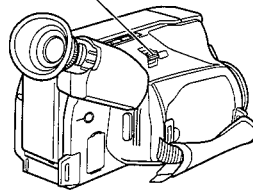
DIGITAL ZOOM

This feature allows you to increase the magnification of the image at the centre of the screen up to 4.5 times greater than the extreme telephoto position.



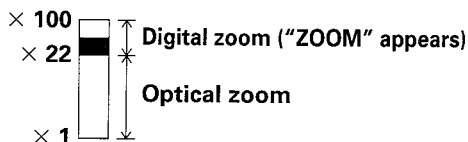
Slide the power zoom control to the "T" side and hold it; "ZOOM" appears in the viewfinder or on the LCD monitor and the digital zoom function is engaged.

Power Zoom Control



NOTE: The digital zoom functions from the extremely telephoto position of $\times 22$.

• **Zoom area**



You can control the digital enlargement ratio by sliding the power zoom control to the "T" or "W" side. When "ZOOM" is not displayed in the viewfinder or on the LCD monitor, the normal zooming function is restored.

BEFORE YOU START TAKING PICTURES WITH YOUR DIGITAL ZOOM CAMERA/RECORDER

Digital zoom lets you really get close to the action. Due to the unique nature of this feature here are some important points to consider before you start:

As with all digital zoom camera/recorders picture clarity diminishes at high zoom ratios.

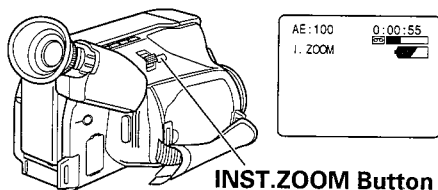
When you zoom in on your subject, at some point camera shake will become noticeable. As the zoom ratio becomes high, it is better to use a tripod.

Since no two people will use their camera/recorders in exactly the same way, you should test the digital zoom feature by making a brief test tape at various zoom settings. So get comfortable with your new camera/recorder then go out and get close to the action.

INSTANT ZOOM

The instant zoom feature activates the digital zoom to magnify the subject being recorded 1.5 times momentarily regardless of the zooming engaged by the power zoom switch.

Press the INST. ZOOM button. "I. ZOOM" appears in the viewfinder or on the LCD monitor and the subject is magnified 1.5 times. The instant zoom function only operates when "I. ZOOM" is displayed. To release instant zoom, press the INST. ZOOM button again so that "I. ZOOM" disappears from the viewfinder or LCD monitor.



NOTE: When the instant zoom is used, the more the image is magnified, the rougher the picture becomes. Also even a slight shaking of the camera/recorder is conspicuous.

MACRO

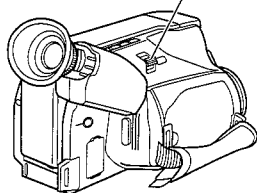
It permits you to shoot objects as close as 1 cm from the lens tip.

Slide and hold the power zoom control to the "W" side. An object is auto focused.

NOTES:

- Determine the size of the object by moving the camera backward and forward.
- Be careful as the lighting tends to be low when shooting in the above conditions.
- A subject 1m from the lens surface to infinity can be focused on the telephoto side.

Power Zoom Control (W)



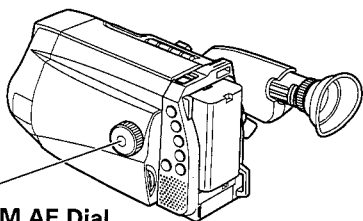
USING THE PROGRAM AE DIAL (for VM-H755LE/VM-H855LE/VM-H955LE)

This camera/recorder can easily set the shutter speed and aperture to suit the subject condition, recording situation or purpose. It can also adjust all of these according to the subject brightness (conventional programme AE).

Turn the PROGRAM AE dial to select the recording mode according to the subject to be recorded and the recording conditions.

During playback, turn the dial to adjust the finer details of playback pictures.

Recording by selecting recording mode

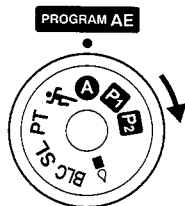


PROGRAM AE Dial

Turn the PROGRAM AE dial during recording pause to set the dial to the desired recording mode by aligning it with the "•" mark.

NOTES:

- The dial will not work when the CAM/OFF/VIDEO switch of the camera/recorder is set to "VIDEO".
- When the dial is set to **P1** or **P2**, recording will be done in the **A** (full auto) mode.



A : Full Auto Mode

In this mode, the camera/recorder automatically adjusts the shutter speed and aperture according to the subject brightness. Therefore, use this mode for standard recording. The shutter speed will appear in the viewfinder or on the LCD monitor.

AE: 500

⚡ : Sports Mode

Select this mode when recording rapidly moving subjects, such as golf or tennis swings, etc.: The subject will be clearly recorded, without blurring.

"SPORTS" will appear in the viewfinder or on the LCD monitor.

SPORTS

BLC : Backlight compensation mode

Select this mode when recording the subject against a light source brighter than the subject.

"BLC" will appear in the viewfinder or on the LCD monitor.

BLC

🔦 : Gain-up mode

Select this mode when recording a poorly lit subject, such as in a dim room, etc.: The entire image will be recorded brighter.

"GAIN UP" will appear in the viewfinder or on the LCD monitor.

GAIN UP

PT : Portrait Mode

Select this mode when recording a subject portrait standing out from a blurred background.

"PORTRAIT" will appear in the viewfinder or on the LCD monitor.

PORTRAIT

SL : Spotlight Mode

Select this mode when the contrast ratio of subject is high and the highlighted section area is relatively small.

"SPOTLIGHT" will appear in the viewfinder or on the LCD monitor.

SPOTLIGHT

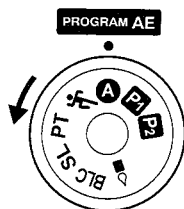
Adjusting playback pictures

Turn the dial to adjust the finer details of playback pictures when viewing playback pictures on TV screen or dubbing recorded scenes.

Turn the PROGRAM AE dial in the direction of the arrow to select the playback mode.

A : Play back most pictures in this position.**P1 : Luminance hard****P2 : Luminance soft****NOTES:**

- If the PROGRAM AE dial is set to **P1** or **P2** in the camera mode, the image being recorded will not change.
- When you play back tape with the dial set to **A**, **⚡**, **PT**, **SL**, **BLC** or **🔦**, it will be played back in the normal mode.
- During playback, no mode display will appear in the viewfinder, on the LCD monitor, or on the connected TV.

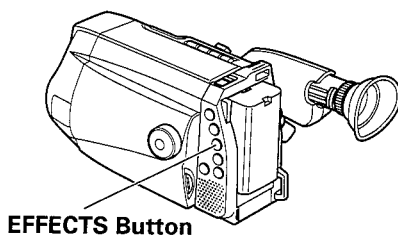


DIGITAL EFFECTS RECORDING

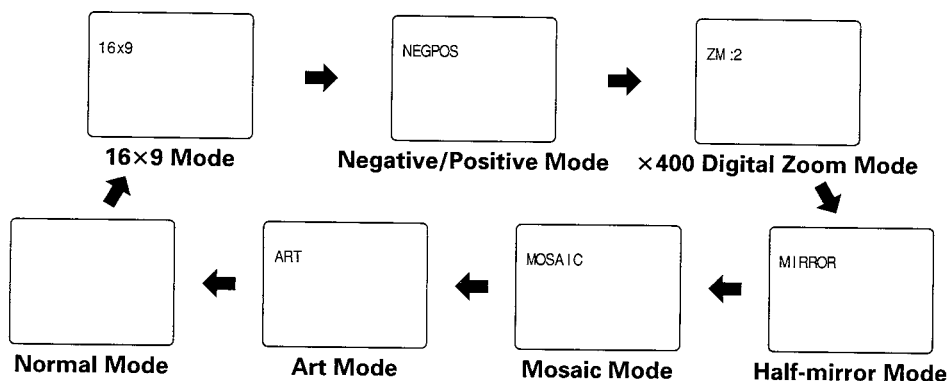
The digital signal processor in this camera/recorder allows you to record picture and add special effects: 16×9 recording mode, a negative image (negative/positive mode), 400 times digital zoom feature (with instant zoom), a symmetric image (obtained by placing a mirror at the centre of the screen [half-mirror mode]), an image in mosaic (mosaic mode), and an oil painting look (art mode).

NOTE: The half-mirror recording and mosaic recording functions cannot be used with digital zoom, instant zoom or image stabilizer function.

- Each time the EFFECTS button is pressed, the recording mode is switched.



EFFECTS Button

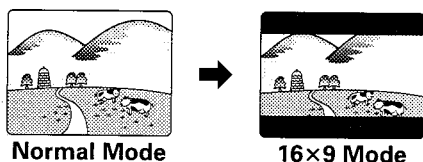


Activating digital effects recording

- Place the camera/recorder in the record pause mode.
- Press the EFFECTS button to select the digital effects record mode you want.

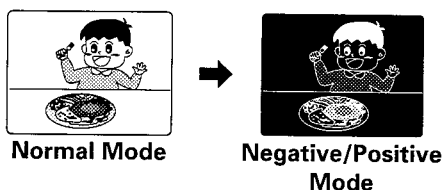
16×9: 16×9 Mode

The picture format can be switched from 4:3 (the picture format of an ordinary TV set) to 16×9. The top and bottom of the picture in the viewfinder or on the LCD monitor become black bars.



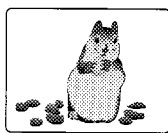
NEGPOS: Negative/Positive Mode

The image in the viewfinder or on the LCD monitor will become negative.



ZM:2: ×400 Digital Zoom Mode

Slide and hold the power zoom control to the "T" side until you reach your desired magnification.



Normal Mode



×400 Digital Zoom Mode

- This function can magnify an image up to 400 times when instant zoom is used at the same time.

MIRROR: Half-mirror Mode

The image in the viewfinder or on the LCD monitor will change to a symmetric image on the left and right, obtained by placing a mirror at the centre of the screen.

NOTES:

- This function cannot be used with digital zoom, instant zoom or image stabilizer function.
- The subject image will be compressed in the horizontal direction and narrow slightly.



Normal Mode



Half-mirror Mode

MOSAIC: Mosaic Mode

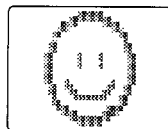
The image in the viewfinder or on the LCD monitor will be in mosaic.

NOTES:

- This function cannot be used with digital zoom, instant zoom or image stabilizer function.
- The subject image will be compressed in the horizontal direction and narrow slightly.



Normal Mode



Mosaic Mode

ART: Art Mode

The image in the viewfinder or on the LCD monitor will take on the look of an oil painting.



Normal Mode



Art Mode

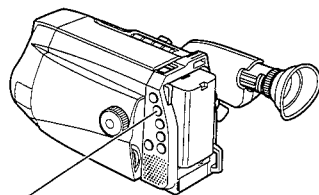
3. Press the Start/Stop button to start recording.

- To release digital effects recording, repeatedly press the EFFECTS button in the record pause mode until the normal mode is restored.

FADE-IN/FADE-OUT

This feature lets you add a professional touch to your home recordings. When you fade into a scene, the recording will start with a blank scene and the picture will gradually appear. The picture gradually disappears when fading out. There are six fade modes.

NOTE: When using FADE button, both picture and sound will gradually appear and disappear. The fade speed is automatically controlled by the camera/recorder.



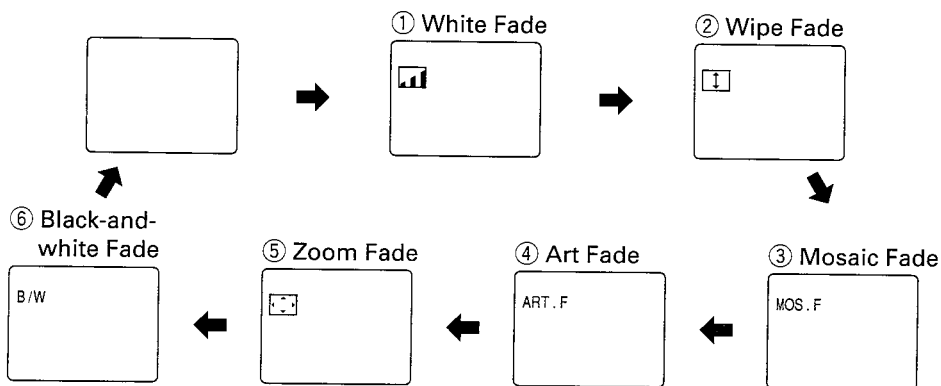
FADE Button

(continued on next page)

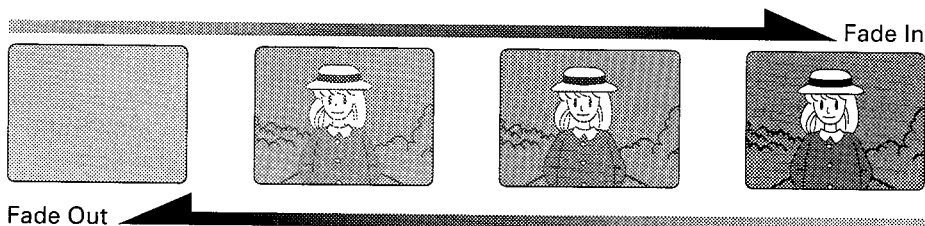
■ To select the fade mode

Each time the button is pressed, the FADE mode is switched and displayed in the viewfinder or on the LCD monitor. The last mode selected will appear first.

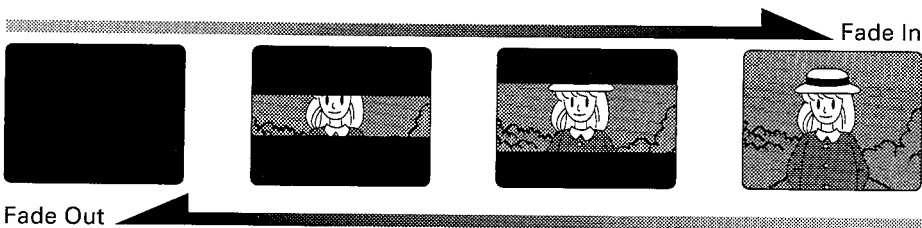
NOTE: If you press the EFFECTS button after setting the fade function, the fade function will be released. After setting the digital effect mode, reset the fade function.



① White Fade (fading in/out, from/to a white picture)

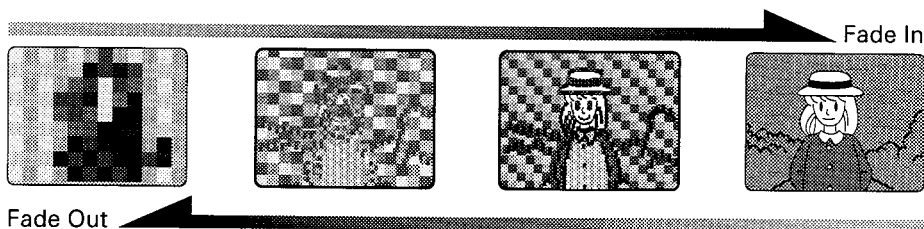


② Wipe Fade (fading in/out, from/to a black picture)

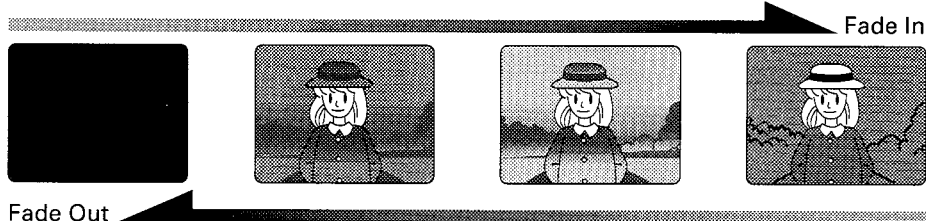


③ Mosaic fade (fading in/out, from/to a mosaic image)

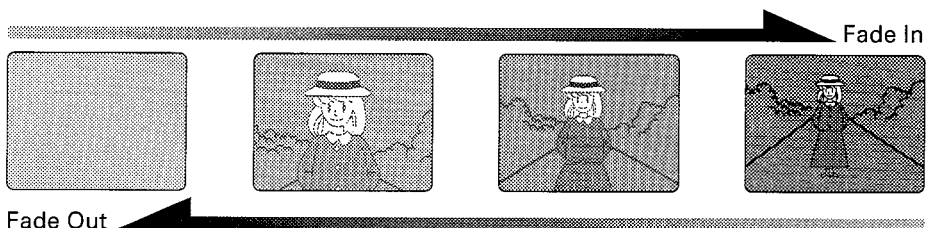
NOTE: The subject image, immediately before fading in or out, will be compressed in the horizontal direction and narrow.



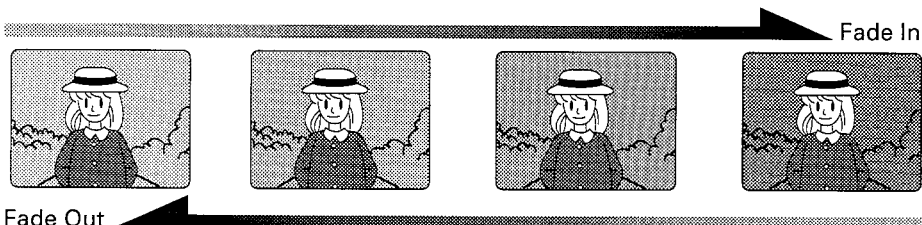
④ Art Fade (fading in/out, from/to a picture with the feel of an oil painting)



⑤ Zoom Fade (fading in/out while zooming)



⑥ Black-and-White Fade (fading in/out, from/to a black-and-white picture)



■ FADE-IN

1. Press the FADE button before recording to select the fade mode.
2. Press the Start/Stop button to start recording.
 - The picture fades in automatically and recording starts.

■ FADE-OUT



1. While the camera/recorder is recording, press the FADE button to select the fade mode.
2. Press the Start/Stop button to stop recording.
 - The picture fades out automatically and "REC" flashes until the fade ends then recording stops.

NOTE: When fading out be sure to wait until the PAUSE indicator (●II) is visible in the viewfinder or on the LCD monitor before attempting to put the camera/recorder into the record mode again.

ELECTRONIC IMAGE STABILIZER (EIS)

This function corrects slight shaking of the image in the following record modes.

- Recording by zooming up to a distant subject
- Recording by approaching a small subject
- Recording while walking around
- Recording a subject behind the window of a vehicle

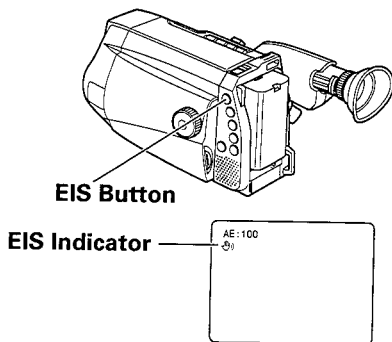
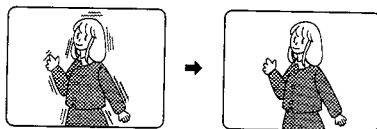
1. Press the EIS button to engage the electronic image stabilizer and to display the EIS indicator "  ".
 - Press the button again to switch off this function.
2. Press the Start/Stop button to start recording.
 - EIS corrects slight shaking of the image when "  " is displayed.

NOTES:

- Shaking of the image appears in the viewfinder or on the LCD monitor with a slight delay.
- EIS may not operate correctly when a wide or teleconverter lens is used.
- It is recommended that you do not use the EIS function when using a tripod. The sensor would detect vibrations from the tripod in which case the picture would be blurred.

NOTES for VM-E555LE:

- When the EIS function is engaged, the picture becomes rough.
- When the EIS function is engaged, the angle of view at the wide-angle end becomes narrower.

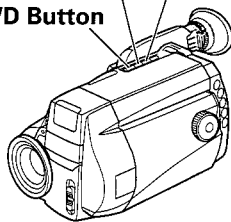


QUICK EDIT

The quick edit feature allows you to search for the end of previously recorded material, or find a particular spot on your tape, to begin your editing, or recording new material. Quick edit is used while the camera/recorder is in the record/pause (stand-by) mode. By holding down the F.FWD, REW/REVIEW or PLAY button you can visually search or play your tape. Releasing the buttons (F.FWD, REW/REVIEW or PLAY) immediately stops the tape at that position.

NOTE: If the F.FWD or REW/REVIEW button is pressed for quick edit, noise will appear in the viewfinder, on the LCD monitor, or on the connected TV.

**PLAY Button REW/REVIEW Button
F.FWD Button**



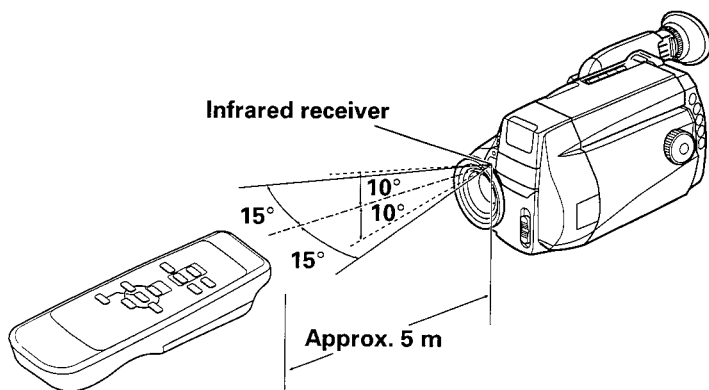
WIRELESS REMOTE CONTROL

You can operate the camera/recorder with the wireless remote control (provided) from a distance.

The buttons on the remote control except for A/V DUB, DISPLAY, COUNTER RESET and TITLE ON/OFF have the same functions as the buttons with the same identifications on the camera/recorder.

Aim the remote control at the receiver of the camera/recorder.

Remote controllable range



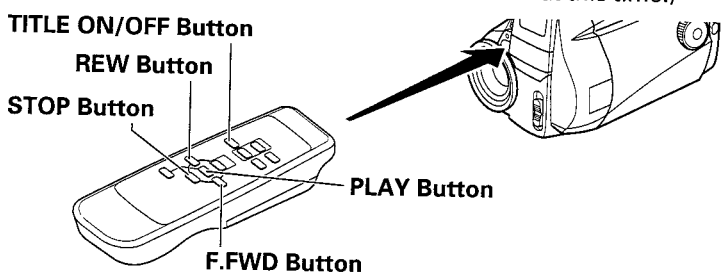
Cautions on the remote control

- Use the remote control indoors. When the infrared ray receiver is exposed to direct sunlight or strong light such as that from artificial lighting, the remote control may not operate correctly.
- The remote control cannot be operated if there is an obstacle between the remote control and infrared ray receiver.
- The remote control code of this camera/recorder is "VCR2". If the remote control code of your VCR is the same, "VCR2", your VCR may malfunction when this remote control is used.

CREATING AND RECORDING TITLE

The titling function allows you to select one of nine titles stored in camera/recorder memory, or create a new title, and record it. You can choose from five languages to display the stored titles: English, French, Spanish, German and Chinese. Select or create a title and personalize your recordings, while at the same time keeping a permanent visual record of what is contained on a tape.

When creating and recording a title, use the TITLE ON/OFF button on the remote control. (When creating a title in the CAM mode, the DATE/DISP. button of the camera/recorder can be used instead of the TITLE ON /OFF button on the remote control. "⌚TITLE" should be displayed in the viewfinder or on the LCD monitor at this time.)

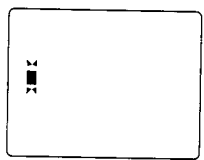


Selecting stored title (prememo)

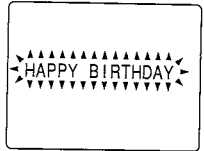
NOTE: Be sure to insert the clock battery before selecting a title. Although a title can be chosen without the clock battery inserted, it will disappear when the battery providing power to the camera/recorder is removed.

1. Connect the camera/recorder to a power source.
2. Hold down the red button on the CAM/OFF/VIDEO switch and slide it to either CAM or VIDEO.
3. Press the TITLE ON/OFF button on the remote control.

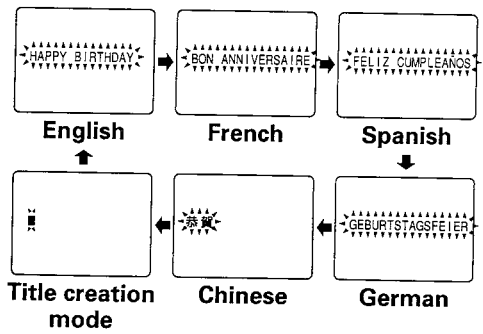
A flashing cursor will appear in the viewfinder or on the LCD monitor, and the camera/recorder will enter the title creating mode ("Creating a title" on page 47).



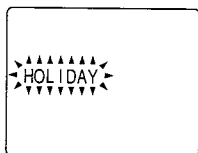
4. Press the PLAY button.
"HAPPY BIRTHDAY" will appear.



You can choose the desired language of the displayed title by pressing the PLAY button, as in the following.



5. Use the F.FWD or REW button to select a desired title.
6. After you have selected the title, press the TITLE ON/OFF button.
The selected title will be stored in memory and then disappear.



Stored titles (Prememo) available

<English>

HAPPY BIRTHDAY
HOLIDAY
WEDDING
FAMILY
PARTY
CONGRATULATION
MERRY CHRISTMAS
HAPPY MEMORIES
HAPPY NEW YEAR

<French>

BON ANNIVERSAIRE
JOYEUX NOEL
FELICITATIONS
"SUPERSTAR"
VACANCES
"THANKSGIVING"
JOYEUSES PAQUES
ANNIVERSAIRE
BONNE ANNEE

<Spanish>

FELIZ CUMPLEAÑOS
FELICIDADES
EL PROTAGONISTA
FELIZ NAVIDAD
VACACIONES
ANIVERSARIO
FELIZ AÑO NUEVO
SEMANA SANTA
FIESTA

<German>

GEBURTSTAGSFEIER
FROHE WEIHNACHT
HOCHZEIT
PROST NEUJAHR
FROHE OSTERN
GLÜCKWUNSCH
JUBILÄUM
SCHÖNE FERIEEN
ERNTE-DANKFEST

<Chinese>

恭賀
生日快樂
聖誕快樂
新年快樂
婚禮
快樂回憶
假日
宴會
終了

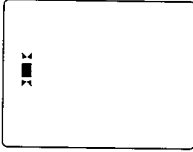
Creating a title

A title contains two lines of up to 16 characters per line. The camera/recorder contains 79 different characters for creating a title.

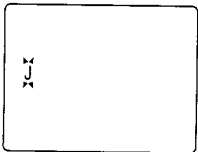
NOTE: Be sure to insert the clock battery before creating a title. Although a title can be created without the clock battery inserted, it will disappear when the battery providing power to the camera/recorder is removed.

1. Connect the camera/recorder to a power source.
2. Hold down the red button on the CAM/OFF/VIDEO switch and slide it to either CAM or VIDEO.
3. Press the TITLE ON/OFF button on the remote control and a flashing cursor appears in the viewfinder or on the LCD monitor.

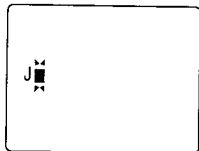
NOTE: If a stored title appears, press the PLAY button to display the screen for creating a title.



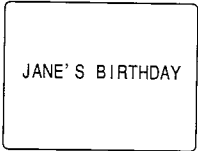
4. Use the STOP button to place the cursor where you wish to begin your title.
5. Use the F.FWD and REW buttons to select the first character of your title.



6. Once you've selected a character press the STOP button to set it.



7. Complete the title by repeating steps 5 and 6.



8. When you complete your title, press the TITLE ON/OFF button on the remote control to store the title in memory and remove the title graphics from the viewfinder or on the LCD monitor.

NOTE: As long as the correct current time can be displayed, the title is held in memory.

Characters available for your title

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Q	R	S	T	U	V	W	X	Y	Z	0	1	2	3	4	5
6	7	8	9	?	'	.	/	-	+	:	<	>	!	Ä	
È	Ï	Ö	Ü	Â	Ê	Î	Ô	Ù	Á	É	Í	Ó	Ú	À	È
Ù	Ñ	Ç	Æ	Œ	Ø	¿	¡	À	\$	£	DM	¥	"		

Space

Correcting errors

1. Press the TITLE ON/OFF button on the remote control.
2. Use the STOP button to select the character to be corrected.
3. Use the F.FWD and REW buttons to correct the character.
4. Press the TITLE ON/OFF button on the remote control to store the corrected title in memory.

Recording title on a tape in the camera/recorder

1. Hold down the red button on the CAM/OFF/VIDEO switch while sliding the switch to CAM.
2. Locate the point of the tape where you wish to record the title ("QUICK EDIT", page 44).
3. Press the TITLE ON/OFF button on the remote control.
4. Use the PLAY button to select the title (the title you have created or the existing title in camera/recorder you have memorized on page 45) you wish to record.
5. Press the Start/Stop button to start recording the title.
6. Press the TITLE ON/OFF button on the remote control to stop recording the title. The title graphics disappear from the viewfinder or LCD monitor and the camera/recorder can record normally.

NOTE: Create and store your title before an event you plan to record. Just press the TITLE ON/OFF button on the remote control to superimpose the title over the scene as you record it. This method avoids erasing previously recorded material which will happen when you record a title on a previously recorded tape.

Recording a title while transferring a tape

1. Connect the camera/recorder to the VCR (page 55).
2. Press the TITLE ON/OFF button on the remote control to turn title on.
3. Use the PLAY button to select the title from memory.
4. Press the TITLE ON/OFF button to turn title off.
5. Turn on the VCR and set it to record. Hold down the red button on the CAM/OFF/ VIDEO switch while sliding the switch to VIDEO. Press PLAY on the camera/recorder.
6. Press the TITLE ON/OFF button on the remote control at the point on the tape where you wish to record the title.
7. Press the TITLE ON/OFF button on the remote control again to stop recording the title.

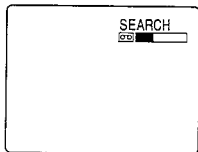
NOTE: Recording the title during tape transfer will erase a portion of your recorded material.

DATE SEARCH

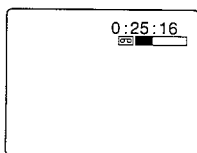
The date search function memorizes the start and end positions of recordings you made on a specific day so you can easily locate those positions later as long as the cassette is left in the camera/recorder.

NOTE: Be sure that the date and time are set.

1. Attach a power source and slide the CAM/OFF/VIDEO switch to "VIDEO".
2. Press the DATE/DISP. button (the DISPLAY button on the remote control) to display "SEARCH" in the viewfinder or on the LCD monitor.



3. Press the REW/REVIEW button to search for the start position from which you last made a recording or the F.FWD button to recording end position.
"◀◀ SEARCH" will appear while the start position is being searched for; "SEARCH ▶▶", while the end position is being searched for.
4. When the required position is located, the camera/recorder enters the stop mode and "SEARCH" disappears from the viewfinder or LCD monitor.



NOTES:

- If you have ejected the cassette, this function will not operate with that cassette. (When a cassette is inserted and the recording is started, the position is identified as the recording start position on that day.)
- If the clock battery is not inserted, the date search function does not operate when the battery providing the power to the camera/recorder is removed.
- When the cassette was recorded by another camera/recorder, the date search function does not operate.
- The date search function is released when you press the STOP button during date search mode.
- If the recorded time is less than 30 seconds, the date search function may not operate normally.

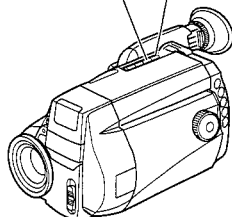
MEMORY

When the linear time counter with memory indication appears in the viewfinder or on the LCD monitor, a tape that is being rewind automatically stops when the counter reads approximately "0:00:00M". This is useful if there is a section of tape you want to review immediately after recording or if you want to return to the same point several times in a row.

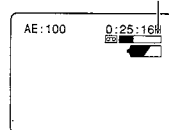
1. Start playing or recording a tape.
2. At the point you want playback to start, press COUNTER RESET button on the remote control to reset the counter to "0:00:00".
3. Continue to play or record.
4. Press the STOP button to stop playback, or press the Start/Stop button to stop recording and set the CAM/OFF/VIDEO switch to "VIDEO".
5. Press the DISPLAY button on the remote control until the linear time counter with memory is displayed.
6. Press the REW/REVIEW button. The tape will be rewound to the preselected point, at approximately "0:00:00M" indication.

NOTE: The tape will also stop approximately at "0:00:00M" during fast forward mode.

REW/REVIEW Button STOP Button



Linear time counter with memory



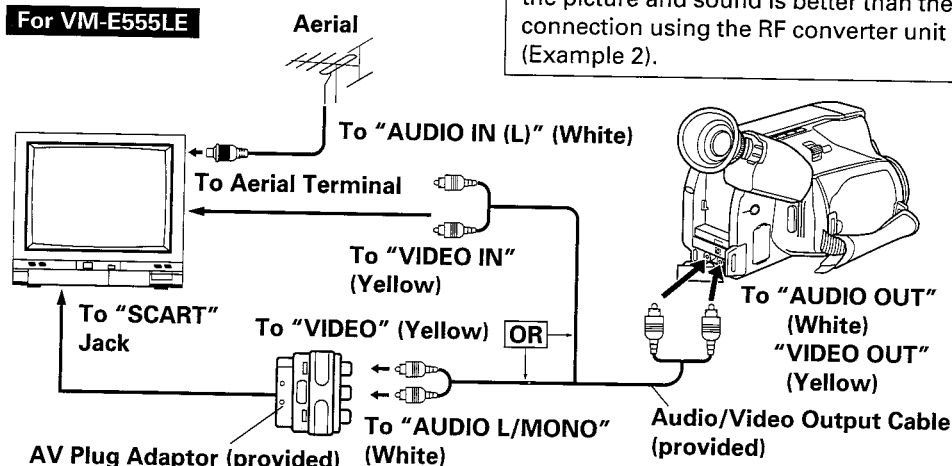
CONNECTIONS AND OPERATIONS FOR VIEWING THE PICTURE PLAYED BACK ON YOUR TV

To play back a tape recorded on your camera/recorder and view it on your TV receiver, you must connect the camera/recorder to the TV receiver using either audio/video output cable or RF converter unit.

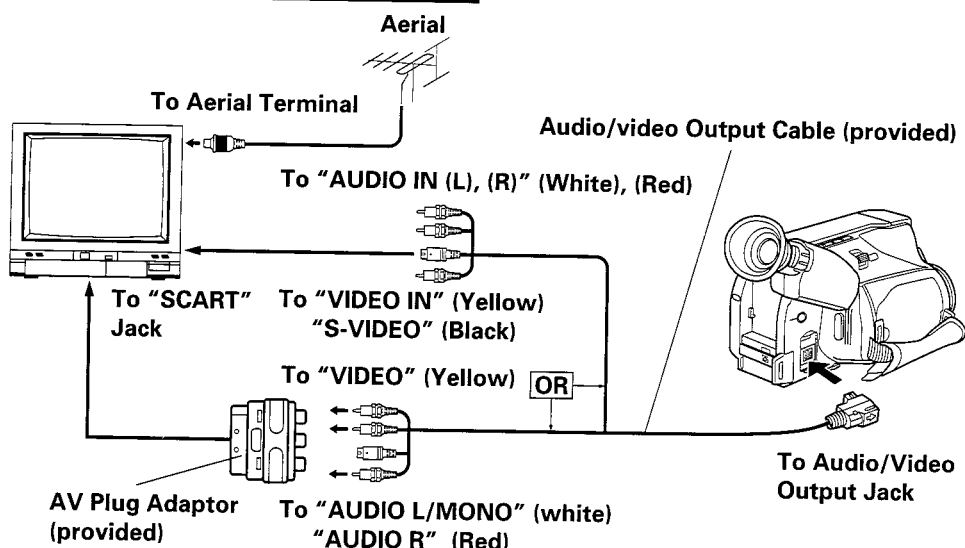
Example 1: If your TV has SCART jack or AUDIO/VIDEO IN jacks,

NOTE: If the camera/recorder is connected as illustrated, the quality of the picture and sound is better than the connection using the RF converter unit (Example 2).

For VM-E555LE



For VM-H755LE/VM-H855LE/VM-H955LE

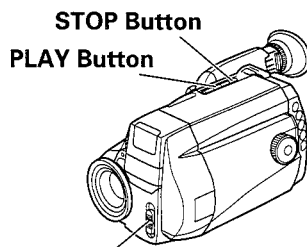


1. Connect the TV and camera/recorder as illustrated on page 51.

NOTE for VM-E555LE: If your TV has two (stereo) audio inputs, connect the audio plug to the left-channel audio input on the TV.

NOTES for VM-H755LE/VM-H855LE/VM-H955LE:

- If your TV has a single (mono) audio input, connect either the left or right audio plug to the audio input on the TV.
 - If your TV has an S-VIDEO input, connect the S-VIDEO plug (black) instead of the VIDEO plug (yellow).
 - If you use a generally available audio/video cable in place of the Audio/Video output cable (provided) with the connection shown above, unplug the Audio/Video output cable from the audio/video output jack of the camera/recorder.
2. Turn on TV and select video input.
 3. Insert the cassette.
 4. Slide the CAM/OFF/VIDEO switch to "VIDEO".
 5. Press the PLAY button.
 6. After playing press the STOP button.



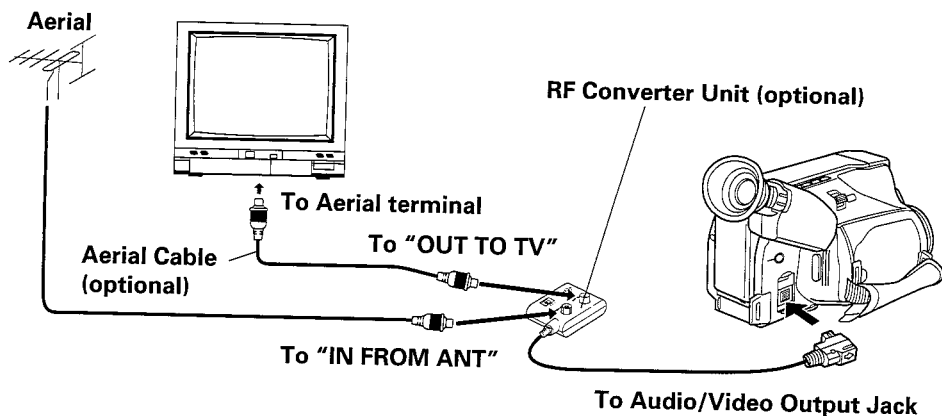
CAM/OFF/VIDEO Switch

S-VIDEO plug (VM-H755LE/VM-H855LE/VM-H955LE)

The black plug of the AV stereo output cable (provided) outputs the video signal by separating it into the luminance (Y) and chrominance (C) signal components. If your TV is able to handle S-VIDEO signals, connecting this plug to the TV gives a picture much clearer than can be obtained from the signal supplied through the conventional video plug.

* The "S" in the S-VIDEO plug stands for a "Separate Y/C".

Example 2: If your TV is a regular TV,



1. Remove the antenna cable from your TV set. Connect this cable to "IN FROM ANT" on the RF converter unit.
2. Connect the Aerial cable to "OUT TO TV" on the RF converter unit.
3. Connect the other end to aerial terminal on your TV.
4. Connect the connector cable from RF converter unit to audio/video output jack on the camera/recorder.
5. Turn on the TV and select an unused channel (CH37). Refer to "VIDEO CHANNEL SETTING" on page 54.
6. Perform same procedures in steps 3 through 6 of "Example 1" on page 52.

NOTES:

- With some TVs, audio noise may be heard during forward/reverse search and during still playback.
- Normal picture may not appear on some TVs during multi playback (PAL60 playback) using an RF converter unit.

NOTE for VM-H755LE/VM-H855LE/VM-H955LE: With this connection, the output sound is monaural.

NOTE: If you want to watch a TV programme with camera/recorder connected as illustrated, slide the CAM/OFF/VIDEO switch of the camera/recorder to "OFF".

VIDEO CHANNEL SETTING

When viewing the picture played back by the camera/recorder on your TV, change over the I/G select switch of the RF converter unit matching your TV as well as to select the video channel on the TV.

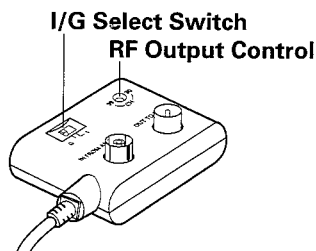
1. Connect TV, RF converter unit and camera/recorder. (See page 53.)
2. Set I/G select switch on RF converter unit as follows.

Colour TV broadcast system in your country	Position of I/G Select Switch
PAL (System I)	I
PAL (System B & G)	G

3. Turn on TV and select an unused channel (CH37). (In some cases this may be marked A/V.)
4. Insert the recorded tape to camera/recorder.
5. Slide the CAM/OFF/VIDEO switch to "VIDEO".
6. Press the PLAY button of camera/recorder.

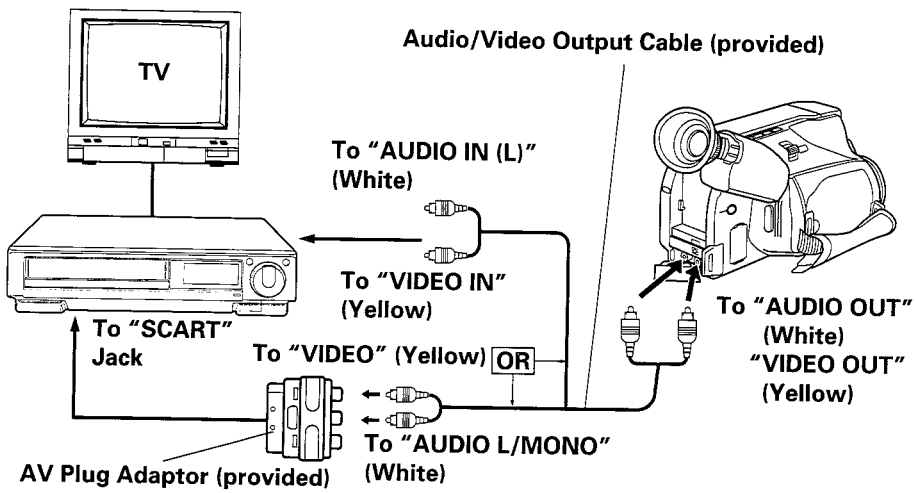
Now playback picture appears on your TV.

If the playback picture is not clear or channel 37 is used for broadcasting in your area, adjust the RF output control of RF converter unit using a small screwdriver and readjust your TV until the playback picture is clearly observed.

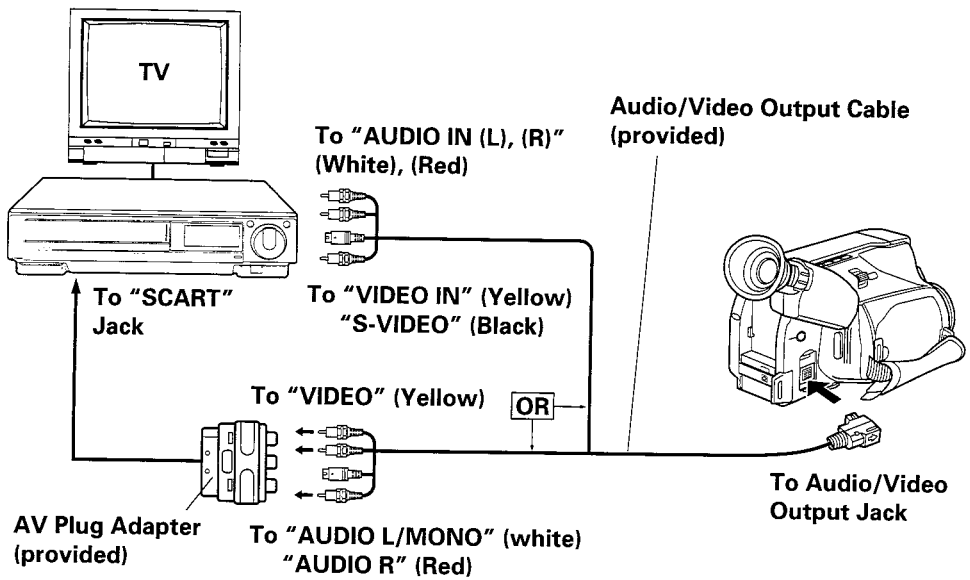


CAMERA/RECORDER TO VCR DUBBING

For VM-E555LE



For VM-H755LE/VM-H855LE/VM-H955LE



1. Connect the camera/recorder, VCR and TV as shown in the figure, and then turn on their operate switches.

NOTES:

- Select line input with your VCR. Refer to the instruction manual of your VCR for details.
- Reduce the volume of the camera/recorder as low as possible during dubbing. Otherwise the played back pictures could be distorted.
- During multi playback (PAL60 output), dubbing may not be possible with some VCRs.

NOTE for VM-E555LE: If your VCR has two (stereo) audio inputs, connect the audio plug to the left-channel audio input on the VCR.

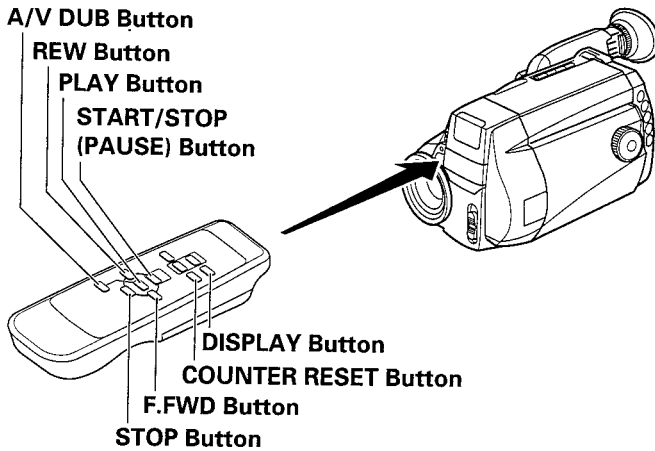
NOTES for VM-H755LE/VM-H855LE/VM-H955LE:

- If your VCR has a single (mono) audio input, connect either the left or right audio plug to the audio input on the VCR.
- If your VCR has an S-VIDEO input, connect the S-VIDEO plug (black) instead of the VIDEO plug (yellow).
- If you use a generally available audio/video cable in place of the Audio/Video output cable (provided) with the connection shown above, unplug the Audio/Video output cable from the audio/video output jack of the camera/recorder.

2. Insert the cassette used for editing into the camera/recorder and the cassette to be recorded into the VCR.
3. Play the tape on camera/recorder and record it on the VCR.

AUDIO/VIDEO DUBBING

Audio/video dubbing lets you record new audio and video from the camera/recorder's built-in microphone and camera onto the tape in the camera/recorder.



NOTES:

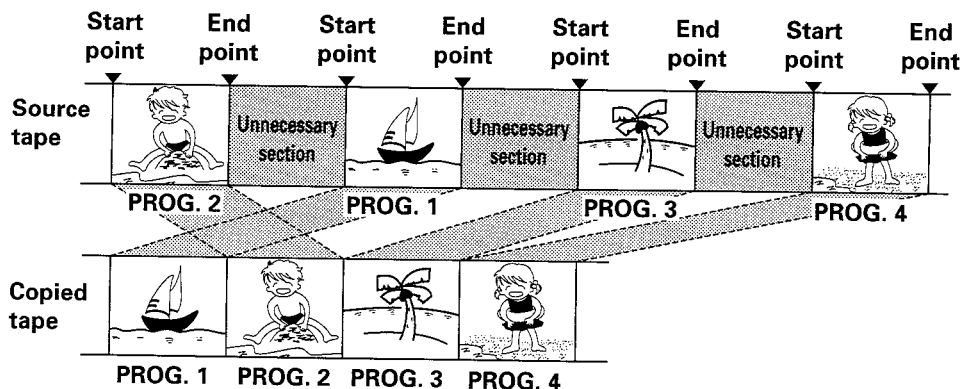
- When the audio/video dubbed portion is played back, noise may appear at the end of the dubbed portion.
 - If the camera/recorder is in AV DUB pause or STILL mode for more than 5 minutes, the camera/recorder stops automatically to protect the tape.
1. Insert a recorded tape.
Be sure that the record-protect tab is not closed.
 2. Slide the CAM/OFF/VIDEO switch to "VIDEO".
 3. Aim the remote control at the receiver on the camera/recorder.
 4. Press the PLAY button and then REW or F.FWD button to search to the approximate area on the tape where you want to begin your dub.
 5. Press the PLAY button again to search for the exact position that you want to stop dubbing and then press the START/STOP (PAUSE) button.
 6. Press the DISPLAY button so that the linear time counter with memory appears and then press the COUNTER RESET button to set the counter reading to "0:00:00M".
 7. Press the REW button to rewind the tape to the approximate position that you want to start dubbing.
 8. Press the PLAY button, and when the exact position that you start to dub is reached, press the START/STOP (PAUSE) button.
 9. Place the CAM/OFF/VIDEO switch to CAM position. The record pause indicator "●II" appears and the camera/recorder is ready to record.
 10. Press and hold the A/V DUB button, then press PLAY. This places the camera/recorder A/V DUB pause mode. "●II" disappears replaced by "A/V DUB II".
 11. Press the Start/Stop button on the camera/recorder or START/STOP (PAUSE) on the remote control. The audio/video dubbing starts. When the linear time counter reaches "0:00:00M" the camera/recorder stops automatically, recording only the portion of the tape that you selected.

SIMPLE PROGRAMMABLE EDIT (The edit remote control is optional)

Simple programmable edit allows you to programme your camera/recorder to select the scenes you want to copy from a pre-recorded tape. Use the edit remote control (optional) to easily copy scenes from a recorded tape in the camera/recorder (playback machine) onto a blank tape in a table-top VCR which handles infrared remote signals (recording machine).

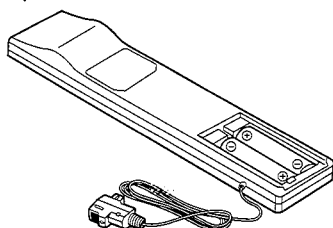
NOTES

- Only the VM-RM20EDE edit remote control (optional) can be used with this camera/recorder.
- Some VCRs cannot be operated by the edit remote control (optional).



How to install the batteries

- Be sure to install two IEC R6 batteries before use.
- Be careful to install with the correct polarity.

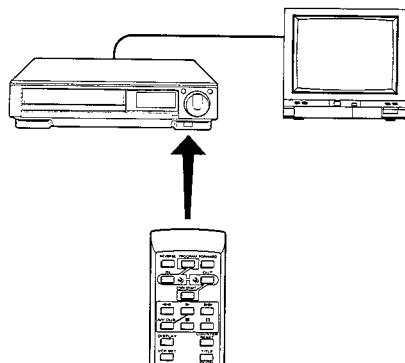


Cautions on batteries

- Do not use the old and new batteries at the same time.
- Do not mix batteries of different types.
- Do not short, take apart or dispose of batteries by throwing them into a fire.
- When liquid leaks, wipe it off completely and then insert new batteries.

(continued on next page)

Remote controllable range

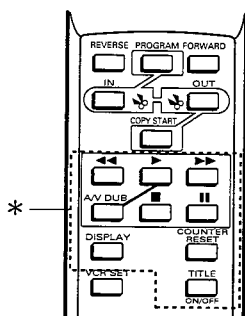


Cautions on the remote control

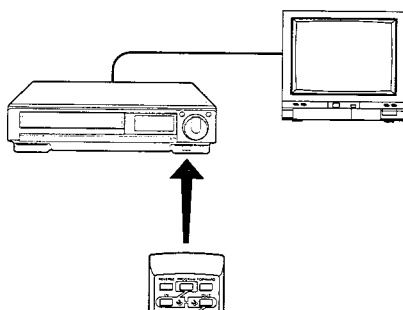
- Point the remote control straight at the VCR's infrared receiver for operation.
- Use the remote control indoors. When the infrared receivers of the VCR and camera/recorder are exposed to direct sunlight or strong artificial light, the remote control may not operate correctly.
- The remote control cannot be operated if there is an obstacle between the remote control and infrared receiver. Especially, be careful of this during dubbing.

Programming the remote control for the VCR

It is necessary to programme the edit remote control code to match the VCR before starting editing.



1. Turn the VCR on.
2. Aim the remote control at the infrared receiver on the VCR and press the VCR SET button on the remote control and hold it, then press the button corresponding to the VCR's maker code. For example, if you have a PHILIPS VCR, press the VCR SET button and hold it,



then press the **II** button. To check whether the remote control code matches that of your VCR or not, point the remote control at the infrared receiver on the VCR and press the VCR SET button and hold it. If the remote control code has been set, the VCR channel is counted up automatically.

VCR maker	Press VCR SET and the following button
HITACHI	REVERSE
SONY	PROGRAM
Panasonic	FORWARD
TOSHIBA	IN
MITSUBISHI	COPY START
SANYO	OUT
SHARP	◀◀
NEC	▶

VCR maker	Press VCR SET and the following button
JVC	▶▶
AKAI	A/V DUB
Gold Star	■
PHILIPS	II
LOEWE	DISPLAY
Grundig	COUNTER RESET
THOMSON	TITLE ON/OFF

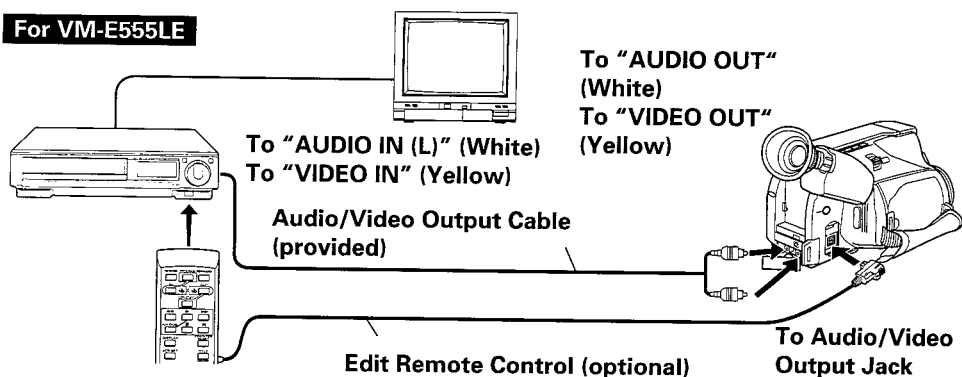
NOTES:

- Your VCR should have an infrared remote control.
- If the channel on the VCR does not change with the above operation, you need to switch the remote control code of your VCR. Refer to the VCR's instruction manual. If the channel still does not change after you have changed the VCR's remote control code, the edit remote control cannot operate your VCR.
- The remote control code is held in memory until it is changed or the batteries are replaced.
- When the edit remote control is connected to the camera/recorder, the buttons marked * in the figure above perform the same operations as those of the other remote control provided.

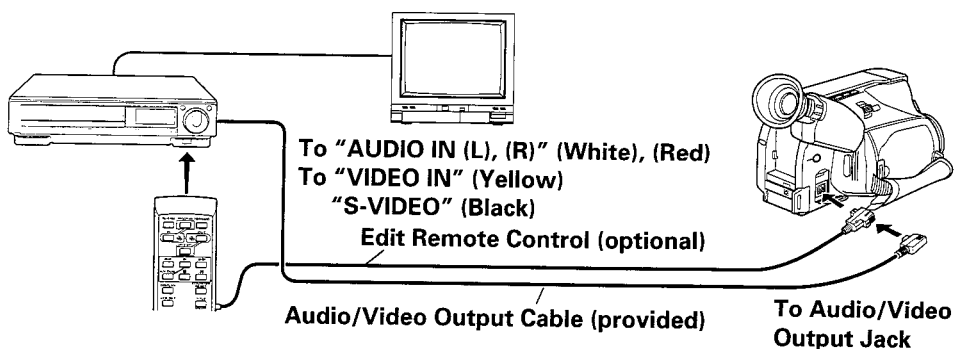
Operation

You can select up to four different scenes or segments to be copied at one time.

For VM-E555LE



For VM-H755LE/VM-H855LE/VM-H955LE



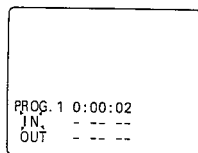
(continued on next page)

1. Use the audio/video output cable to connect the camera/recorder and VCR as illustrated and then connect the edit remote control to the camera/recorder.

NOTE for VM-E555LE: If your VCR has two (stereo) audio inputs, connect the audio plug to the left-channel audio input on the VCR.

NOTES for VM-H755LE/VM-H855LE/VM-H955LE:

- If your VCR has a single (mono) audio input, connect either the left or right audio plug to the audio input on the VCR.
 - If your VCR has an S-VIDEO input, connect the S-VIDEO plug (black) instead of the VIDEO plug (yellow).
 - If you use a generally available audio/video cable in place of the Audio/Video output cable (provided) with the connection shown above, unplug the Audio/Video output cable from the audio/video output jack of the camera/recorder.
2. Insert a recorded tape into the camera/recorder.
 3. Set the CAM/OFF/VIDEO switch of the camera/recorder to "VIDEO".
Turn the recording VCR on and select line input.
 4. Press the PROGRAM button of the remote control. The programme display appears in the viewfinder or on the LCD monitor.



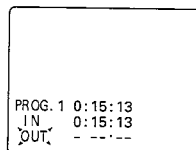
NOTE: If your VCR is connected to a TV, the programme display will also appear on the TV screen.

5. Press the ► button and use the ►► or ◀◀ button to search for the starting point of the segment you want to copy. Press ► and then II to set the camera/recorder to the play pause mode.

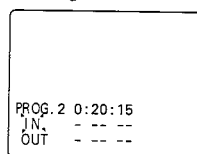
The linear time counter counts when searching for the starting point.

Use the FORWARD and REVERSE buttons in the play or pause mode to fine adjust the tape position. Press FORWARD and hold it; the tape is played while the button is held. Press REVERSE and hold it for reverse play.

6. Press the IN button to store the counter reading. When you press the IN button, "OUT" flashes in the programme display.



7. Press the ►► button to search for the end of the segment you want to copy. Press ► and then II to set the camera/recorder to the play pause mode. Use the FORWARD or REVERSE button as required to fine adjust the tape position.
8. Press the OUT button to store the counter reading at the end of the scene.



9. Continue programming as described above until you have entered up to four different segments.
10. Load a blank tape, then set the VCR to the record pause mode.
11. Point the remote control at the receiver on the VCR and press the COPY START button to start simple programmable edit.
 - The camera/recorder automatically searches for the beginning of the first segment and starts playback. The recording VCR automatically starts recording.
 - After recording the first segment, the camera/recorder automatically searches for the beginning of the next segment and resumes playback. The recording VCR is automatically released from the record pause mode and resumes recording.

- It continues recording and pausing until all the programmed segments are edited.
12. When simple programmable edit is finished, the camera/recorder will enter the stop mode, and the VCR will enter the record pause mode.

NOTE: After the simple programmable edit is finished, the programmed data is erased. If you want to continue editing other segments, repeat steps 5 – 12.

NOTES:

- If you make a mistake during programming, start again from the beginning or press the COUNTER RESET button to return to the previous steps one by one and enter the correct programme data.
- Most VCRs (recording machine) may be released from the record pause mode if it continues for more than five minutes.
- The dubbing start and end positions may slightly drift from the specified positions when certain VCRs are used.
- Reduce the volume of the camera/recorder as low as possible during dubbing. Otherwise the played back pictures could be distorted.

To end programmable simple edit

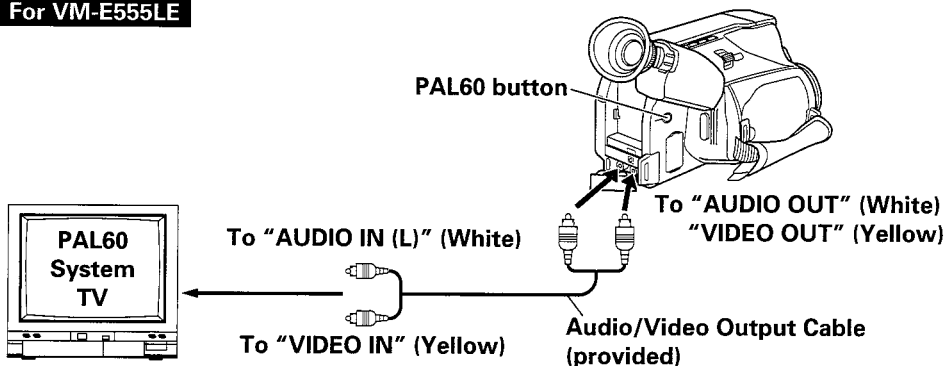
Press the PROGRAM button to remove the programme display from the viewfinder or LCD monitor. Then press the stop button on the recording VCR to set it to the stop mode.

NOTE: If the CAM/OFF/VIDEO switch of the camera/recorder is set to "OFF" or "CAM" when the recording VCR is in the record pause mode, the VCR enters the record mode.

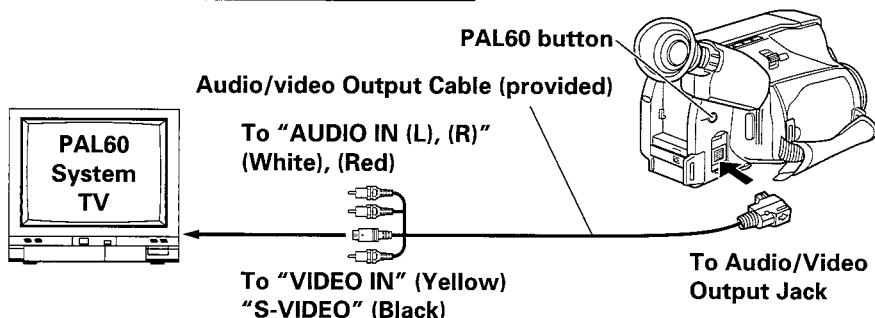
MULTI PLAYBACK (USING A PAL60 SYSTEM)

This camera/recorder can convert an NTSC tape recorded in the SP mode into "PAL60" format signal, allowing you to view it on a PAL TV which has vertical sync adjustment circuitry (volume) for 60Hz. "PAL60" is a special output signal format with which a PAL TV can be used to view a tape recorded by an NTSC recorder.

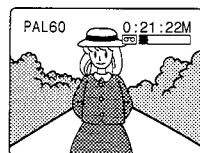
For VM-E555LE



For VM-H755LE/VM-H855LE/VM-H955LE



1. Connect the camera/recorder to TV as shown in the figure.
2. Turn the TV on and select the TV's "video input". Set the TV to PAL60 mode.
3. Insert tape on which an NTSC signal is recorded in the SP mode into the camera/recorder.
4. Set the CAM/OFF/VIDEO switch of the camera/recorder to "VIDEO".
5. Press the PAL60 button.
6. Press the PLAY button of the camera/recorder. When the DATE/DISP. button is pressed, the display will appear in the viewfinder or on the LCD monitor, along with "PAL60".



7. After playback is finished, set the CAM/OFF/VIDEO switch of the camera/recorder to "OFF".

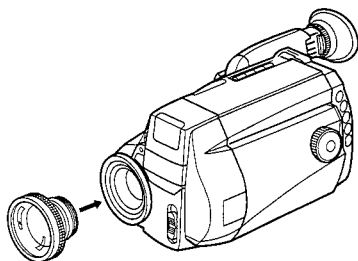
NOTES:

- Connect the camera/recorder to a TV monitor which has a vertical sync adjustment circuitry (volume) for 60 Hz and which can be locked into the PAL60 mode. Refer to the TV's instruction manual for details on how to set the TV.
- This camera/recorder cannot record using the PAL60 system.
- When an NTSC tape is being played back, the picture in the viewfinder or on the LCD monitor shrinks in the vertical direction.
- If the signal recorded on the tape is in bad condition, the PAL60 playback system may malfunction.
- A PAL recorded tape cannot be normally played back when "PAL60" is displayed.
- If you use the 16×9 mode of the video effect functions during playback, the bottom of the lower black bar may not be black in the viewfinder or on some TVs.
- The PAL60 mode will be released when the camera/recorder is turned off.

ATTACHING THE TELE OR WIDE CONVERTER

Screw the lens into the threads on the front of video camera/recorder lens assembly.

NOTE: If the tele-conversion lens (optional) is attached over the lens, the four corners of the image will be missing in the wide-angle position. Use zoom in the telephoto position.



DEMONSTRATION MODE

This camera/recorder is equipped with a demonstration mode. If you leave the powered camera/recorder for 10 minutes without a cassette inserted when the date has not been set or the clock battery is dead, the camera/recorder demonstration mode will start.

To cancel the demonstration mode

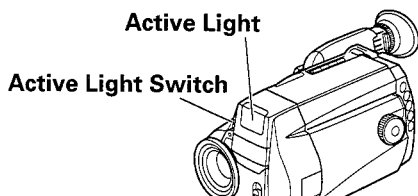
- Disconnect power from camera/recorder and reconnect it.
- Insert a cassette.

If you do not want the camera/recorder to enter the demonstration mode, set the date beforehand.

USING THE ACTIVE LIGHT (for VM-H855LE/VM-H955LE)

Use the active light if you wish to shoot objects in dark places.

When the Light switch is set to "AUTO", the camera light turns on automatically when the camera/recorder is pointed at objects in a dark place and turns off when it is pointed at objects in a bright place.



CAUTION: Since the power consumption of the active light is high, the camera/recorder operating time will decrease even with a fully charged battery pack is attached.

1. Make sure that a fully charged battery or AC adaptor is attached.
2. Set the CAM/OFF/VIDEO switch to CAM and then set the Light switch to "AUTO" when required.

NOTES:

- When the Light switch is set to "ON", the active light will turn on whenever you make a recording.
- If the Light switch is set to AUTO, the active light may not turn on immediately.
- If the active light turns on for more than 5 minutes with the light switch set to "AUTO" or "ON", when the camera/recorder is in the record pause mode, the camera/recorder and light will automatically turn off. In such a case, turn the camera/recorder on again.
- If the Light switch is set to AUTO and the camera/recorder is pointed at a white subject with high reflectivity in a dark place from a short distance, the active light may turn on or off. In this case, set the Light switch to ON.
- The active light will turn off during quick edit or review, even if you have manually turned on the light.
- The active light will not turn on when

the CAM/OFF/VIDEO switch is set to VIDEO.

- If the active light is used with the AC adaptor, the lighting will be slightly dimmer than with battery pack.
- If there is no cassette in the camera/recorder, or if a recording prevented cassette is inserted with the active light switch set to AUTO, the light will automatically go out after 5 minutes.

CAUTION: Turn the active light on only when you need it, otherwise the operating time of the battery is shortened due to the power consumption of the active light.


CAUTION: Do not hold the unit by the built-in camera light when carrying as this could cause a malfunction.


3. After use, set the Light switch to "OFF" or set the CAM/OFF/VIDEO switch of the camera/recorder to the "OFF" position.

NOTES:

- During operation and/or after use of the active light, the front surface and lamp of the camera light will be very hot. To avoid burns or hair damage, do not touch them with your hand.
- When the active light is on, do not allow water to drop on the light.
- When the active light is on, avoid subjecting the active light to impacts or sharp vibrations.
- Do not allow the cooling vents to become blocked. Also, do not cover the active light with paper or other objects, since the air flow will be interrupted, resulting in possible overheating hazard.
- Never use the active light in the vicinity of explosive or highly inflammable materials.
- After using the active light, cool the camera light section sufficiently before storing the camera/recorder in the case.
- The lamp can only be replaced by a service engineer: If the lamp has blown, consult your nearest service centre.

TROUBLESHOOTING

Symptom	Check Point & Correction
Cassette holder cannot be opened when you press the EJECT button.	Connect the power source.
Cassette cannot be inserted into cassette compartment.	Load cassette in direction indicated by arrow on cassette.
	The cassette window must be towards the outside.
Picture does not appear in the viewfinder or on the LCD monitor.	Slide the CAM/OFF/VIDEO switch to "CAM" position.
The camera/recorder cannot go into the recording mode, even when Start/Stop button is pressed.	Check the record-protect tab on the cassette. See page 20 for details.
	Set the CAM/OFF/VIDEO switch to "CAM" position.
	The "  " indication in the viewfinder or on the LCD monitor flashes to indicate battery is discharged. Try another battery or charge the battery.
PLAY button cannot be engaged.	Set the CAM/OFF/VIDEO switch to "VIDEO" position.
Interference on playback picture. (The TV is connected to the camera/recorder using the RF converter unit.)	When you see the playback picture on your TV, adjust fine tuning knob on television set to obtain the best picture.
Picture is out of focus. Auto-focus does not operate correctly.	Press the FOCUS control buttons simultaneously to erase "FOCUS" in the viewfinder or on the LCD monitor.
	Auto-focus does not operate correctly if a special-effects filter is attached or with the objects shown on page 34.
The created title does not appear.	Insert the clock battery, then create a title.
	Do not remove the clock battery after creating a title.
	When the stored title (prememo) is displayed in the viewfinder or on the LCD monitor, press the PLAY button.
Power is interrupted.	If the record pause mode continues for more than 5 minutes, power is shut off automatically. Press the Start/Stop button to restore the power.

Symptom	Check Point & Correction
The LCD screen is black and white. The colour of the LCD screen is not normal. Power is not turned on. Power is turned on, but no button operations are accepted.	Remove the power source and the clock battery. And after about one minute, the display in the viewfinder or on the LCD monitor will be reset. Then set the information again.
"TAPE" appears in the viewfinder or on the LCD monitor.	Have you moved the camera/recorder or cassette from a cold place to a warm place so that its temperature changed abruptly? If the temperature has changed, remove the cassette and set the CAM/OFF/VIDEO switch to OFF, then wait for about one hour.
	Remove the cassette and then try to reinsert: remove it several times. If the indication is still shown in the viewfinder or LCD monitor, use a cleaning tape to clean the heads and replace the cassette.
The battery level indicator "  " appears differently on the LCD monitor and in the viewfinder.	This does not indicate a fault; it is because the power consumed by the LCD monitor and viewfinder is different.

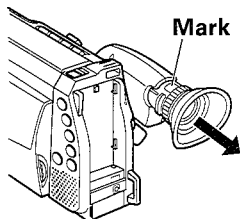
MAINTENANCE

1. To maintain the optimum performance of this camera/recorder, regular periodic maintenance is required. Your dealer will advise you further.
2. Maintenance and adjustments may not be carried out by the user. In all cases of difficulty or doubt, consult your dealer.
3. Head cleaning
Dirt accumulated on the video heads after a period of time may cause the playback picture to become blurred or part of the video information to be lost.

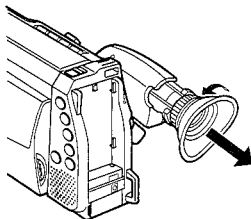
This does not mean that the recorded programme has been erased but head cleaning is required.
Use a dry type head cleaning tape to clean the video heads.
When it is difficult to remove a dirt using the head cleaning tape, head cleaning requiring highly technical care is necessary.
Consult your nearest dealer or VCR service centre for head cleaning.

CLEANING THE INSIDE OF THE ELECTRONIC VIEWFINDER

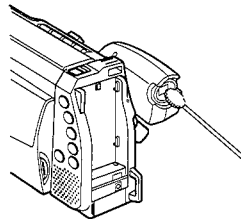
If dust or foreign matter adheres inside the viewfinder, clean it by using the following procedure.



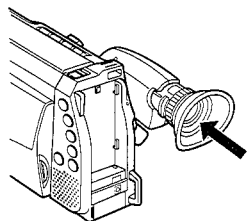
1. Grasp the knobs on both sides of the eye cup stem and pull out the eye cup far enough that a mark can be seen (up to half where the eye cup is pulled out all the way).



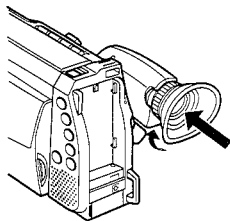
2. While still grasping the knobs, turn the eye cup counterclockwise until it stops; then pull out to remove it.



3. Clean the picture tube cover and lens. To prevent scratching, use a soft non-abrasive cloth, cotton swab or lens cleaning paper.



4. Grasp the knobs of the eye cup stem so the mark faces up as shown and push the eye cup in as far as it will go.



5. While grasping the knobs, turn the eye cup clockwise until it stops, then push it in all the way.

SPECIFICATIONS

■ General

Power requirements	7.2V DC
Power consumption	VM-E555LE: 3.5 W (when recording/LCD monitor OFF) 4.3 W (when recording/LCD monitor ON)
	VM-H755LE: 3.6 W (when recording/LCD monitor OFF) 4.6 W (when recording/LCD monitor ON)
	VM-H855LE: 3.6 W (when recording/LCD monitor OFF) 4.6 W (when recording/LCD monitor ON)
	VM-H955LE: 3.6 W (when recording/LCD monitor OFF) 4.7 W (when recording/LCD monitor ON)
Operating temperature	0°C to 40°C
Operating humidity	< 80%
Storage temperature	– 20°C to 60°C
Dimensions	118.5 (W) × 102.5 (H) × 181 (D) mm
Weight	VM-E555LE: Approx. 850g (without battery pack and cassette)
	VM-H755LE: Approx. 850g (without battery pack and cassette)
	VM-H855LE: Approx. 880g (without battery pack and cassette)
	VM-H955LE: Approx. 880g (without battery pack and cassette)

■ Video Recorder Section

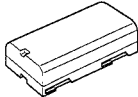
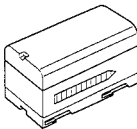
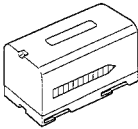
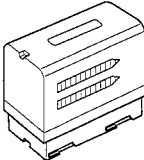
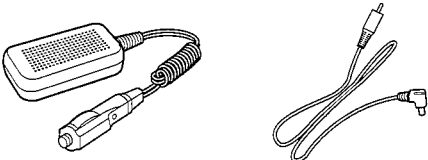
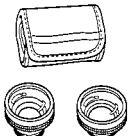
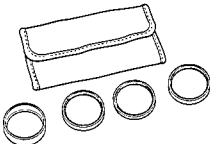
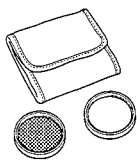
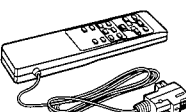
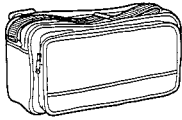
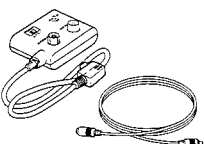
Format	8 mm
Record/playback system	Two video record/playback heads
Video signal	PAL colour & CCIR monochrome signals 625 lines
Tape speed	SP: 20.05 mm/sec.
Video output	1.0 Vp-p, 75 ohm
Audio output	– 8 dBs, less than 1K ohm
Fast forward/rewind time	Approx. 6 minutes with P5-90 cassette

■ Camera Section

Scanning	625 lines/50 fields/25 frames
Required minimum illumination	VM-E555LE: 0.3 lux VM-H755LE: 0.5 lux VM-H855LE: 0.5 lux VM-H955LE: 0.5 lux
Camera device	1/4" C.C.D
Lens	F1.6 – 3.8 (4 ~ 88 mm) 22:1 power zoom lens with auto focus and auto iris functions
Lens diameter	46 mm

OPTIONAL ACCESSORIES

ENGLISH

Battery Pack (for standard play) VM-BPL13	Battery Pack (for long play) VM-BPL27	Battery Pack (for long play) VM-BPL30	Battery Pack (for long play) VM-BPL60
			
Car Battery Cord DC Cord VM-CC80E KIT		Conversion Lens Set VM-CL12TW	Filter Kit VM-FL60K
			
Filter Kit VM-FL46K	Edit Remote Control VM-RM20EDE	Soft Case VM-CB55SR	RF Converter Unit VM-RF85E(R)
			

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